Best Practice in Promoting Employee Health and Wellbeing in the City of London

RESEARCH REPORT CITY OF LONDON CORPORATION

TECHNICAL REPORT

CITY OF LONDON

cavill ASSOCIATES
public health consultancy

University of Salford MANCHESTER

Best Practice in Promoting Employee Health and Wellbeing in the City of London – Technical Report is published by the City of London Corporation. The author of this report is Cavill Associates Ltd in collaboration with the University of Salford.

March 2014

PO Box 270
Guildhall
London EC2P 2EJ

www.cityoflondon.gov.uk/business/economic-research-and-information

Authors and Acknowledgements

This report was prepared for the City of London Corporation by Cavill Associates Ltd in collaboration with the University of Salford.

Dr. Nick Cavill. Director, Cavill Associates Ltd, and Senior Honorary Research Fellow, University of Salford.

Dr. Margaret Coffey. Reader in Public Health, School of Health Sciences, University of Salford.

Mike Parker. Director, Progress Health Partnerships Ltd.

Prof. Lindsey Dugdill. Professor of Public Health, School of Health Sciences, University of Salford.

The authors would like to thank the City of London Corporation for commissioning this research and for their input throughout the research process; and the employees of those City firms who kindly gave up their time to be interviewed.

Contents

Executive summary

This research looks at best practice in supporting the health needs of City workers, focusing on large financial and professional services companies. This was informed by a comprehensive review of academic literature, looking in particular at the health conditions arising in the employee population in these sectors, along with interviews with 20 City employers – a relatively small sample in firm numbers but together employing tens of thousands of people in the City - looking at the interventions these firms have in place. This body of work will help to guide others considering implementing or further developing similar initiatives.

This technical report sets out and discusses all of the academic and 'grey' literature (68 reviews) which informed the literature review aspect of this research. It also contains detailed findings on the interviews with City firms. A shorter report containing the key research findings, analysis and discussion of these, and practical suggestions for businesses looking to implement employee health and wellbeing programmes or develop their programmes further, is available online from the City of London Corporation Research webpage.

This summary provides a short overview of the key findings from the literature and interviews, as well as some suggestions for businesses on best practice.

Best practice for improving health and wellbeing in the workplace

There is a strong body of evidence in the published literature to support the development of workplace health promotion programmes. Approaches to improving the health of employees are effective in a number of areas:

- **Health promotion/wellness programmes.** Multi-component programmes covering a range of lifestyle issues (e.g. physical activity; diet; smoking cessation; et.), designed in participation with staff, and supported by senior management, appear to be the most effective in improving aspects of employees' health, at least in the short term.
- **Mental health programmes.** The evidence is strong for interventions to reduce stress in the workplace, particularly in relation to cognitive behaviour therapy; and moderate short-term for interventions targeted at people with an existing diagnosis of depression.
- **Back pain and musculoskeletal health.** Although there are a number of clear and promising interventions, the evidence for effectiveness does not appear particularly strong. This may be at least in part due to the challenge of measuring musculoskeletal outcomes.
- **Organisational approaches.** The evidence supports holistic embedded organisational approaches to workplace health improvement.

What is current practice in the City?

The research found that City firms hold a sophisticated understanding of the key aspects which link health and wellbeing to the bottom line, for example the links between staff engagement and productivity, CSR enhancing global brand profiles, organisational culture and employee retention and recruitment.

The interviews with City firms also highlighted a number of good practice examples across different workplace health issues.

- **Health promotion/wellness programmes.** Interviewees recognise the need to be proactive about managing employee health and provide a range of health promoting opportunities. Most have well developed occupational health and Employee Assistance Programmes. Fewer companies appear to have programmes that are developed in conjunction with staff, and not all are supported explicitly by senior management.
- **Mental wellbeing.** This is an area of workplace health that most companies want to develop. Mental health issues are not currently integrated and managed within the workplace system by most organisations – provision is very much at an individual level. However, there are some exemplar organisations who are attempting to address this, through for example mental health champions. There is growing awareness of the need to be open and 'talk about mental health'. Management training for recognising and managing mental health issues is also increasingly common.
- **Back pain and musculoskeletal health.** Firms largely take a preventative approach to help manage musculoskeletal disorders in their workforce. Current provision includes ergonomic work station assessment; access to physiotherapy (fast-track in some instances) and exercise provision.
- **Approach.** There is variation in how City firms approach health and wellbeing in their organisation. Engagement with staff; management training and buy-in; and partnership working with external organisations are all increasingly common.

How firms can improve their workplace health programmes

In terms of key lessons learned from the published evidence and company interviews, to be most effective workplace health programmes should be: strategic in nature: developed across the organisation; built on staff needs; and aim to tackle health problems at the source rather than dealing with the outcomes of poor health.

This research also provides a number of practical suggestions as to how large firms in the financial services and professional services sectors can continue to support the health needs of their workforce:

- **Assessing** organisational and individual determinants of health within their organisations.
- **Planning** programmes with the help of a steering group, comprising employees at all levels of the organisation.
- **Designing** programmes with the active involvement of staff based on known evidence of effectiveness and identified staff needs.
- **Implementing** changes to the work environment and work practices to reduce negative influences on health and wellbeing at their source.
- **Establishing** organisational-level programmes to raise awareness about mental health issues.

- **Developing** individual-level interventions that have been shown to be effective, in all areas including mental health, musculoskeletal health, physical activity, diet and smoking.
- **Ensuring** that processes are in place to deal compassionately and effectively with employees who have diagnosed mental health problems.
- **Encouraging** the development of social support networks in the workplace.
- **Evaluating** all approaches to workplace health promotion so that the evidence base and business case can be improved.

1 Introduction

1.1 Outline of the research

This research, carried out by Cavill Associates in collaboration with the University of Salford, was commissioned by the City of London Corporation in support of the Corporation's commitment to improving workplace health and wellbeing across the City, and more broadly to support City-type businesses looking to implement health support measures or build on those they already have in place.

The research reviews international literature on the effectiveness of workplace health interventions to identify and explore best practice characteristics and examples of interventions relevant to the financial and professional services sector in the UK, in particular large companies (250+ employees) who have the scale and resources to run such health programmes. This technical report sets out the findings of this research in detail. For an assessment of the literature in terms of transferability to firms in the City and similar employers and organisations across the UK, please see the shorter report available from the City of London Corporation Research webpage.

1.2 Research objectives

- To identify, from existing literature and case studies, best practice in workplace health interventions relevant to the City, and UK financial services and professional services firms more widely.
- To identify current practice within City firms, identify areas of good practice, and draw out lessons from best practice in the literature.
- To develop practical recommendations to help guide firms in upholding best practice in employee health and wellbeing in the workplace.

1.3 Summary of research methods

The research consisted of the following:

- A review of 68 published systematic reviews from the academic literature on the effectiveness of organisational or individual-level interventions to improve workplace health and wellbeing. Reviews were included if they covered health promotion approaches or programmes conducted in (or applicable to) workplaces of 250+ employees; were evaluated by an independent agency; and presented some outcome data.
- A second systematic review of literature, focusing on literature exploring interventions in the banking, professional services and financial services sector, to identify best practice in health improvement within these sectors. This was intended to find studies that were applicable to this sector, and/or which had not been included in any review to date. Thirteen studies were identified, of which three were relevant. The remaining ten were considered unsuitable either as they didn't measure the effectiveness of workplace health and wellbeing interventions or the study context was not comparable to City-type businesses.

- A review of 'grey literature' (literature which has not undergone the peer-review process and is not published in an academic journal). This resulted in 45 case studies. Following screening, 17 case studies were included.
- Semi-structured interviews with 20 senior managers in large (250+ employees) City firms to explore their experiences of implementing health and wellbeing programmes in their workplaces. The interview sample comprised of firms across the banking/finance (three), legal (seven), accounting (two) and professional services (four) sectors, and an additional five firms from other sectors such as telecommunications. These were identified from business databases and known contacts. Employee interviewees had a range of job titles, such as: Human Resources Director; Health & Wellbeing Officer; Global Head of Corporate Responsibility; Wellbeing Advisor. Interviews were recorded, transcribed and analysed for relevant experiences and examples of practice.

Further detail on the research methodology is provided in chapter two of this technical report.

2 Research methodology

A ten year, retrospective analysis of reviews on workplace health and wellbeing programmes was conducted in order to establish effectiveness regarding health and wellbeing outcomes.

2.1 Search strategy

A comprehensive search strategy for the analysis of reviews was developed based on Hill et al., (2007. The following electronic databases, which represented the relevant breadth of fields and disciplines pertaining to workplace health and wellbeing, were included in the search:

- PubMed (Medline);
- HSE Research Reports;
- Cochrane Collection ;
- Ingenta Connect;
- Web of Science;
- PsychInfo;
- Emerald.

Within these databases, the following search terms were used:

'work/workplace/worksite', 'work', 'occupation/job/employment', 'corporate health', 'financial sector', 'banking', 'professional services', 'sickness absence', 'occupational health support', 'work and well-being', 'working age health', 'health promotion', 'healthy choices', 'healthy eating', 'smoking', 'alcohol'. 'drug use', 'health care', 'workplace health promotion', 'ill-health', 'early intervention', 'health insurance', 'wellness', 'disability', 'musculoskeletal', 'back pain', 'behaviour', 'attendance management', 'health management', 'vocational rehabilitation', 'early rehabilitation', 'return-to-work support', 'staying in work', 'attendance', 'sickness absence', 'workplace adjustments', 'ageing', 'workplace health', 'stress management', 'mental health', 'mental wellbeing', 'mental health interventions', 'workplace intervention'.

2.2 Initial results and screening

In respect of the review of systematic reviews, to be included they had to satisfy the following criteria:

- Published in English;
- Published since 2003;
- Involved a review of published literature;
- Review included studies of health and wellbeing interventions/programmes; conducted in (or applicable to) workplaces of 250+ employees;
- Evaluated by an agency independent of the employer;
- Studies on individuals were excluded.

When considering these reviews, an inclusive approach was taken and included the following considerations:

- The review was not limited to a particular study design, such as controlled studies;

- All types of health promotion interventions/programmes were potentially included;
- Reviews of organisational determinants of health and wellbeing (such as management style) were included alongside traditional workplace health promotion programmes or initiatives.

2.3 Included studies

Following screening, 68 reviews were included for further analysis and data extraction. These are presented in detail in Appendix 1.

The included reviews were divided into the following areas:

- Multi-component programmes (including generic reviews and 'worksite wellness programmes');
- Lifestyle interventions;
- Musculoskeletal disorders (including back pain);
- Return to work, sickness absence and presenteeism;
- Psychosocial working environment (including stress and mental health);
- Organisational, environmental and health and safety approaches;
- Reviews of workplace health and wellbeing interventions looking at economic return on investment.

3 Analysis of reviews in published academic literature

3.1 Multi-component programmes (including generic reviews and 'worksite wellness programmes')

3.1.1 Background

Eight reviews were identified that were classified as having multiple components and/or aimed to measure effectiveness of workplace health programmes. This included a comprehensive range of behavioural components such as diet, fitness, physical activity, smoking, self-perceived stress, autonomy and control over work (Acosta et al., 2010; Bellew, 2008; Carvalho and Dias, 2012; Hill et al., 2007; Oscilla et al., 2012; Parks and Steelman, 2008; Rongen et al., 2013; Soler et al., 2010). The reviews varied greatly in terms of the quality of evidence included (see 3.1.2 key findings section below).

Some of these reviews assessed the effectiveness of workplace health behaviour change programmes targeting a narrow range of specific risks factors, such as being overweight and low levels of physical activity - which in this case were risk factors for metabolic syndrome (Acosta and Heolscher, 2010). Other reviews targeted a broader range of health behaviour change interventions, including diet and tobacco as well as physical activity (Rongen et al., 2013) and also included interventions that focused on stress management (Bellew, 2008).

Two reviews (Oscilla et al., 2012; Parks and Steelman, 2008) assessed the effectiveness of workplace wellness programmes, which are defined as "on or off-site services sponsored by organisations which attempt to promote good health or to identify and correct potential health related problems" (Wolfe, Parker, & Napier, 1994). The aim of the review by Oscilla et al., (2012) was to analyse the impact of worksite wellness programmes on health and financial outcomes, and the effect of incentives on participation. Parks and Steelman (2008) conducted a meta-analysis on studies that examined the effects of participation in an organisational wellness programme (fitness or comprehensive) on absenteeism and job satisfaction.

One further review by Hill et al., (2007) focused on aspects of the process within the workplace context that led to effective health outcomes. Soler et al., (2010) compared the effectiveness of traditional workplace health interventions alone and when combined with feedback to participants on their individual health risks (calculated from biometric components).

3.1.2 Key findings

In general all reviews critiqued the heterogeneity of study populations and workplace types and quality of studies. In addition, effect sizes regarding effectiveness of workplace interventions tended to be smaller if studies were Randomised Control Trials (RCTs) (Rongen et al., 2013). Some reviews were of low quality and therefore all conclusions need to be treated with caution.

3.1.2.1 Workplace processes

In terms of workplace processes that can lead to effective workplace health outcomes, Hill et al., (2007) concluded that the workplace was an important setting in which to address common health problems and identified a range of important process factors which could improve intervention success such as:

- Including some form of employer/employee partnership, and/or consultation, which demonstrated improved results (compared to those which did not);
- Taking into account the attitudes and beliefs of the employee and not just their health condition. Cognitive behavioural approaches are one way of effectively addressing this aspect of health and recovery.
- Interventions should be comprehensive, addressing both individual and organisation-level factors. Specific interventions have also been shown to be effective if, for example, organisational interventions are combined with complementary individual intervention e.g. improved communication, co-operation and common agreed goals between employers, employees, occupational health providers and primary care professionals can result in faster recovery, less re-occurrence of ill-health, and less time out of work overall;
- Current attendance management practice and policy is based on convention rather than evidence of what works best and so updating management of sickness absence may improve attendance and appropriate intervention where healthcare is needed for employees.

Bellew (2008) reported that a range of high level, organisational factors were important in the successful implementation of health promotion interventions in the workplaces including:

- Senior management involvement;
- Participatory planning;
- Integrating health productivity management/workplace health promotion programmes into the organisation's operations;
- Strengthening the organisational climate for implementation by making sure that targeted employees have easy access to high-quality training, technical assistance and documentation;
- Providing incentives for use and providing feedback on innovation use (all of which enhance motivation) and by making the innovation easily accessible or easy to use;
- Giving targeted employees time to learn how to deliver and use the innovation, and redesigning work processes to fit innovation use (all of which increase opportunities or remove barriers);
- Simultaneously addressing individual, environmental, policy, and cultural factors affecting health and productivity;
- Targeting several health issues;
- Recognition that a person's health is determined by an interdependent set of factors;
- Focusing primarily on employees' needs;
- Tailoring programmes to address specific needs;
- Attaining high participation;
- Optimising the use of on-site resources;

- Ensuring long term commitment to the programme;
- Rigorously evaluating programmes;
- Disseminating successful outcomes/promising practices to key stakeholders.

Bellew (2008) also recommended that a set of processes of good practice were important for intervention success including using a theoretical model of behavioural change to underpin the intervention; applying individual tailoring to interventions and integrated goal setting; providing internet-based health information and benefits-linked financial incentives; providing telephone based high-risk intervention coaching and utilising annual staff health checks for individual targeting of interventions.

3.1.2.2 Effectiveness of health interventions

The review by Soler et al., (2010) compared the use of an assessment of health risk at baseline as an effective motivator (gateway intervention) for behavioural change. Here behavioural data were collected (e.g. on smoking, drinking, physical activity etc.) and translated into a risk score which was fed back to the participant who then had access to organisational and individual level health promotion interventions at work. The review level evidence was shown to have meaningful effects on the following health outcomes: tobacco use, alcohol use, dietary fat intake, blood pressure, cholesterol but there was insufficient evidence of effect on body composition, physical fitness and fruit and vegetable intake.

Bellew (2008) reported strong to definitive evidence for effectiveness of interventions in the following areas:

- Tobacco control
  - Interventions directed towards individual smokers to increase the likelihood of quitting smoking;
  - Tobacco policies and bans to decrease cigarette consumption during the working day and exposure of non-smoking employees to environmental tobacco smoke at work.

- Physical activity
  - Prompts to increase stair use;
  - Access to places and opportunities for physical activity;
  - Education, employee and peer support;
  - Multi-component interventions combining nutrition and physical activity.

- Nutrition
  - Multi-component interventions that include physical activity as well as nutrition;
  - Strategies such as nutrition education, dietary prescription, behavioural skills development and training to control adult overweight and obesity;
  - Enhanced access to and availability of nutritious foods;
  - Promotional strategies at point-of-purchase.

- Stress
  - Interventions that focus on both the organisation and the individual;
  - Employee participation strategies designed to increase job control;

- Autonomy strategies to provide personal support to employees;
- Cognitive-behavioural intervention programmes.

Bellew's review emphasises the importance of multi-component programmes as oppose to individual risk factor programmes in the workplace especially those including physical activity, cognitive and dietary components and physical activity, nutritional and smoking components. Oscilla et al., (2012) corroborated these findings showing positive effects of wellness programmes on exercise, dietary, smoking, alcohol and mental health outcomes as well as physiological markers (body mass index (BMI), blood pressure and blood cholesterol) amongst participants. Rongen et al.'s review (2013), which only included RCTs, reported on effectiveness of workplace health promotion programmes aiming to improve smoking cessation, physical activity, diet and/or obesity – effectiveness was greatest in younger populations (i.e. workers under 40 years of age compared with those over 40 years); when contact with participants was weekly and in the highest quality studies.

3.1.2.3 Impact on workplace business outcomes

A range of workplace outcomes are important when assessing the impacts of workplace health intervention research and include reductions in staff turnover, absenteeism, and healthcare costs as well as improvements in productivity, and job satisfaction.

Healthcare costs

The review by Oscilla et al., (2012) (which included observational studies and studies with non-randomly assigned control groups) reported that eight studies included healthcare costs, and all but one study found significant decreases in healthcare costs following implementation of wellness programmes. Different types of healthcare cost effects were reported such as direct reductions in medical costs (between ($176-$1539/participant/annum). Other studies reported broader financial aspects such as disability cost savings ($613/participant/annum) and $180/participant/annum when including healthcare costs and reduced absenteeism. Of the eight studies, five completed return on investment analyses (ROI) and reported returns between $1.65-$6.00 for every dollar invested. Soler et al., (2010) compared the use of an assessment of health risk at baseline as an effective motivator for behavioural change and found a significant reduction in both healthcare service use and worker absenteeism, resulting in economic benefits of between $93-$695/participant/annum. Soler et al., (2010) also reported ROI costs of between $1.40-$4.60 returned for every dollar invested.

Absenteeism

Four studies in Oscilla et al.'s (2012) review evaluated absenteeism costs (estimated cost of missed work days) and found significant effects: these were a ROI of $15.60/dollar spent; $1350 savings/employee on short-term disability costs; 0.1% point risk reduction in days off ill, and $180 savings/participant/annum when including healthcare costs. The review by Hill et al., (2007) reported evidence that the most important contributory factors associated with sickness absenteeism were work demand (work hours, load and pressure); lack of control excessive workload, and poor support from

managers. However, Hill et al.'s review highlighted that both workplace physical activity and fitness programmes could reduce absenteeism as well as reducing waiting times to access occupational health services (i.e. early intervention). A further meta-analysis by Parks and Steelman (2008) of wellness programmes showed that participation in either fitness only or comprehensive wellness programmes (those that included prevention and educational elements) was associated with decreased absenteeism and also increased job satisfaction, supporting an assumption that employees who take part in such programmes are healthier and therefore take less days off sick. Wellness programmes are perceived to improve employees' perceptions of the organisation as showing corporate social responsibility towards its employees, thus influencing retention, recruitment and other aspects of business.

3.1.3 Summary of findings and implications

- These reviews show positive cost-benefits of workplace health promotion/wellness programmes to business especially with respect to reduced healthcare costs and sickness absence.
- There is however an issue of compliance in workplace health promotion programmes: they tend to be attended more by the health conscious minority.
- It appears that organisational-level interventions are more effective that individual-level interventions; in many cases these approaches can be combined. It also appears that multi-component programmes are often more effective.

3.2 Lifestyle interventions

This section comprises reviews that focused on specific behavioural or 'lifestyle' issues. In contrast to the section above, these types of interventions tend to focus on individual behaviours (or at most, two combined behaviours such as diet and physical activity). Each topic or behaviour is described in turn.

3.2.1 Physical activity

3.2.1.1 Background

Six studies summarised review-level evidence on the effectiveness of interventions to promote physical activity in the workplace. This included one meta-analysis of workplace physical activity interventions (Conn et al., 2009); three systematic reviews of interventions to promote physical activity in the workplace (Quyen et al., 2013; Malik et al., 2013; Dugdill et al., 2008); one review focusing only on interventions using pedometers in the workplace (Freak-Poli et al., 2013); and one review of workplace interventions to reduce sitting (Chau et al., 2010). Interventions included internet-based promotions; social/environmental programmes; information programmes; walking programmes using pedometers; and programmes aimed at reducing time spent sitting at work.

3.2.1.2 Key findings

Conn et al., (2009) combined data from studies involving over 38,000 people in their meta-analysis. This makes the review particularly reliable as it is large

enough to be able to detect any impacts of interventions. They found positive impacts of physical activity interventions on physical activity behaviour; fitness; lipids; anthropometric measures; work attendance and job stress. There was a smaller impact on diabetes risk. The authors concluded that workplace physical activity interventions can improve both health and important worksite outcomes. Effects were variable for most outcomes, reflecting the diversity of primary studies.

Quyen et al., (2013) reviewed 20 intervention studies. They found 12 (60%) that reported an improvement in physical activity level, steps, or BMI. Among these, 10 were less than six months in duration; nine used pedometers; six applied Internet-based approaches; and give included activities targeting social and environmental levels. Seven of eight interventions with pre-posttest and quasi-experimental controlled design showed improvement on at least one outcome. However, seven of 12 RCTs did not prove effective in any outcome. The authors concluded that interventions that had less rigorous research designs, used pedometers, applied Internet-based approaches, and included activities at social and environmental levels were more likely to report being effective than those without these characteristics.

Malik et al., (2013) reviewed 58 trials of physical activity workplace interventions in three categories:

- Physical activity or exercise: six trials were found, of which four found some improvement in physical activity, which was statistically significant, compared with control, in two trials. A workplace walking programme resulted in increased step counts, compared with control, and a mandatory physical activity intervention increased weekly physical activity, compared with control.
- Counselling or support: There were 13 trials, with 7,377 individuals. Ten trials indicated some improvement in physical activity, and eight of them showed a statistically significant increase, compared with control. A range of interventions was effective.
- Health promotion messages or information: There were 39 trials, with 28,567 individuals. Twenty-nine trials indicated some improvement in physical activity, which was statistically significant in 22 of them, compared with control. There were greater improvements when the state-of-change levels were matched to the intervention, than when they were mismatched (six trials). The authors concluded that there is evidence that workplace physical activity interventions are effective.

Dugdill et al., (2008) reviewed 14 studies across a range of workplace physical activity interventions. They found data regarding the effectiveness of stair walking interventions were limited and intervention effects were short-lived. Three public sector studies provided evidence that workplace walking interventions using pedometers can increase daily step counts. One good quality study reported a positive intervention effect on walking to work behaviour (active travel) in economically advantaged female employees. There was strong evidence that workplace counselling influenced physical activity behaviour. The authors concluded that there is a growing evidence base that workplace physical activity interventions can positively influence physical activity behaviour

Chau et al., (2010) reviewed six studies that focused on reducing sitting time in workplaces. The primary aim of all six was to increase physical activity; all had reducing sitting as a secondary aim. All used self-report measures of sitting; one specifically assessed occupational sitting time; the others used measures of general sitting. No studies showed that sitting decreased significantly in the intervention group, compared with a control or comparison group. The authors concluded that there is a dearth of evidence on the effectiveness of workplace interventions for reducing sitting, despite the growing body of evidence that prolonged sitting is negatively associated with health.

Freak-Poli et al., (2013) conducted a Cochrane review of workplace interventions using pedometers, to enable employees to monitor the amount of walking they were doing. They found three studies that compared a pedometer programme with a minimally active control group, of which only one found a significantly higher step count in the intervention group. The authors concluded that there insufficient evidence to assess the effectiveness of pedometer interventions in the workplace for increasing physical activity and improving subsequent health outcomes.

3.2.1.3 Summary of findings and implications:

- There is a growing evidence base to support the effectiveness of interventions to increase physical activity in the workplace.
- Effective studies can increase step counts; total physical activity; and some measures of cardiorespiratory fitness.
- Successful approaches include counselling and support programmes; health promotion and information; programmes delivered through the internet; and social and environmental approaches.
- There is conflicting evidence on the effectiveness of pedometer programmes in the workplace: while a number of studies show that these are effective at increasing step counts, a Cochrane review found the evidence to be insufficient.
- There is insufficient evidence on the effectiveness of programmes aimed at reducing sitting time at work.
- The promotion of physical activity in the workplace is a key priority area for health promotion activity for the financial and professional services sector.
- Workplaces would benefit from moving beyond the provision of staff fitness facilities and introducing programmes that are focused on less active members of staff, and include the best elements of successful programmes.

3.2.2 Tobacco

3.2.2.1 Background

Three reviews investigated the effectiveness of programmes aimed at reducing tobacco use among employees and/or increasing the number of smokers who quit smoking.

Cahill et al. (2011) conducted a Cochrane review to investigate the impact of competitions and incentives in the workplace on smoking cessation: in particular on long-term quit rates. In addition they examined the relationship between incentives and programme participation rates. Cahill et al., (2008)

investigated controlled studies of workplace interventions for smoking cessation, again using Cochrane collaboration methods.

Leeks et al. (2010) used the high quality methods from the US Community Guide to review 14 studies that evaluated the evidence of effectiveness of worksite-based incentives and competitions to reduce tobacco use among workers. These interventions offered a reward to individuals, or to teams of individuals, on the basis of participation or success in achieving a specified smoking behaviour change (such as abstaining from tobacco use for a period of time).

3.2.2.2 Key findings

Cahill et al., (2011) included 17 reviews, but reported that none of these demonstrated significantly higher quit rates for the incentives group than for the control group beyond the six-month assessment. There was no clear evidence that participants who committed their own money to the programme did better than those who did not, or that different types of incentives were more or less effective.

They concluded that incentives and competitions have not been shown to enhance long-term cessation rates, with early success tending to dissipate when the rewards are no longer offered. Rewarding participation and compliance in contests and cessation programmes may have more potential to deliver higher absolute numbers of quitters.

Leeks et al., (2010) reported that the evidence was insufficient to determine the effectiveness of incentives or competitions, when implemented alone, to reduce tobacco use. However, the authors also investigated the impact of worksite-based incentives and competitions in combination with additional interventions such as client education, smoking cessation groups, and telephone cessation support. They found that such approaches were effective in increasing the number of workers who quit using tobacco. In addition, these multi-component interventions had the potential to generate positive economic returns over investment when the averted costs of tobacco-associated illnesses are considered.

Cahill et al., (2008) included 37 studies of workplace interventions aimed at individual workers, covering group therapy, individual counselling, self-help materials, nicotine replacement therapy and social support. They reported that group programmes, individual counselling and nicotine replacement therapy increased cessation rates in comparison to no treatment or minimal intervention controls. Self-help materials were less effective.

They also included 16 studies testing interventions applied to the workplace as a whole. There was a lack of evidence that comprehensive programmes reduced the prevalence of smoking. Incentive schemes increased attempts to stop smoking, though there was less evidence that they increased the rate of actual quitting. The authors concluded that there is strong evidence that interventions directed towards individual smokers increase the likelihood of quitting smoking. These include individual and group counselling and pharmacological treatment to overcome nicotine addiction. All these interventions show similar effects whether offered in the workplace or elsewhere. Self-help interventions and social support are less effective. Although people

taking up these interventions are more likely to stop, the absolute numbers who quit are low.

As in their other review quoted above, they concluded that there is limited evidence that participation in programmes can be increased by competitions and incentives organised by the employer. In addition they found no evidence to support comprehensive programmes in reducing the prevalence of smoking.

3.2.2.3 Summary of findings and implications

- Individually-targeted programmes to decrease smoking such as individual and group counselling and pharmacological treatment to overcome nicotine addiction are effective, at least in the short term and should be prioritised.
- Incentives and competitions to encourage smokers to quit are effective in the short term, but may not lead to long-term decreases in smoking.
- Effectiveness of competitions and incentives for quitting smoking can be enhanced by combining them with additional supportive interventions.
- Companies who identify smoking as a health priority, might consider implementing targeted smoking cessation, and offering a range of supportive services. This could include competitions and incentives but only if these are supported by additional programmes such as nicotine replacement.

3.2.3 Diet and nutrition

3.2.3.1 Background

Three reviews investigated studies of the effectiveness of interventions in the workplace aimed at modifying employees' diets (Geaney et al., 2013; Maes et al., 2012; NiMhurchu, 2010). Approaches included educational programmes; worksite environmental change strategies (i.e. changes to the provision of healthy food); or a combination of both (multi-component).

3.2.3.2 Key findings

Geaney et al. (2013) reported six studies of which four reported small increases in fruit and vegetable consumption (≤ half serving/day). These studies involved workplace dietary modifications and three incorporated nutrition education. Other outcomes reported included health status, co-worker support, job satisfaction, perceived health, self-efficacy and food-purchasing patterns. All studies had methodological limitations that weakened confidence in the results.

The authors concluded that there was limited evidence to suggest that workplace dietary modification interventions alone and in combination with nutrition education increase fruit and vegetable intakes. These interventions should be developed with recommended guidelines, workplace characteristics, long-term follow-up and objective outcomes for diet, health and cost.

The review by Maes et al., (2012) included seventeen studies solely focusing on promotion of a healthy diet. Eight were educational, one used worksite environmental change strategies, and eight used a combination of both (multi-component). The reviewed studies show moderate evidence for effects on diet.

Thirteen studies focusing both on nutrition and physical activity (nine educational and four multi-component studies) were identified. Ten were rated as having 'weak' and three as having 'moderate' methodological quality, providing inconclusive evidence for effects. The authors concluded that there is limited to moderate evidence for positive effects of nutrition interventions implemented at the workplace.

NiMhurchu (2010) included sixteen studies, of which eight focused on employee education, and the remainder targeted change to the worksite environment, either alone or in combination with education. In general, worksite interventions led to positive changes in fruit, vegetable and total fat intake. However, reliance on self-reported methods of dietary assessment means there is a significant risk of bias. No study measured more robust outcomes such as absenteeism, productivity, or healthcare utilisation. The author concluded that worksite health promotion programmes are associated with moderate improvement in dietary intake.

3.2.3.3 Summary of findings and implications

- There is only limited evidence that interventions to improve diet are effective in the workplace.
- Companies might review the food they offer (in staff canteens etc.) to ensure that healthier options are available during working hours, but promotional programmes focusing on diet are not likely to be a priority.

3.2.4 Weight control/obesity

3.2.4.1 Background

Three reviews took slightly different approaches to the issue of controlling weight gain and preventing obesity among employees. One focused on the effectiveness of worksite nutrition and physical activity programmes to promote healthy weight among employees (Anderson et al., 2009); one was focused on strategies to prevent weight gain in workplace and college settings (Gudzune et al., 2013) and one was focused on worksite-based weight loss programmes (Benedict & Atherburn, 2008).

3.2.4.2 Key findings

Anderson et al., (2009) reviewed 47 studies of the effectiveness of worksite nutrition and physical activity programmes to promote healthy weight among employees. These results form the basis for the recommendation by the US Task Force on Community Preventive Services on the use of these interventions.

The review found that worksite nutrition and physical activity programmes achieve modest improvements in employee weight status at the 6–12-month follow-up. A pooled effect estimate of −2.8 pounds (95% CI=−4.6, −1.0) was found based on nine RCTs, and a decrease in BMI of −0.5 (95% CI=−0.8, −0.2) was found based on six RCTs. The findings appear to be applicable to both male and female employees, across a range of worksite settings. Most of the studies combined informational and behavioural strategies to influence diet and physical activity; fewer studies modified the work environment (e.g. cafeteria, exercise facilities) to promote healthy choices. The authors

concluded that there is strong evidence of a consistent, albeit modest, effect of worksite nutrition and physical interventions on employee weight outcomes.

Gudzune et al. (2013) reviewed seven work and two college-based studies, which all used combinations of different strategies. There was moderate strength of evidence that work/college-based combination interventions prevented weight gain of ≥ 0.5 kg over 12 months compared to control. However, these programmes did not prevent BMI gain or waist circumference increase. The authors concluded that there is limited evidence that work/college-based interventions employing a combination of strategies prevent adult weight gain.

Benedict & Atherburn (2008) included 11 randomised controlled trials, most of which focused on education and counseling to improve diet and increase physical activity. Intervention groups lost significantly more weight than controls, with the mean difference in weight loss ranging from -0.2 to -6.4 kg. The authors concluded that worksite-based weight loss programmes can result in modest short term improvements in body weight; however, long-term data on health and economic outcomes are lacking.

3.2.4.3 Summary of findings and implications

- There is modest evidence that combined physical activity and diet programmes can influence employees' weight in the short-term.
- There is little evidence that any weight loss is sustained in the medium to long term.
- Workplaces might review the food they offer (in staff canteens etc.) to ensure that healthier options are available, but promotional programmes focusing on diet are not likely to be a priority.
- Physical activity programmes – as noted earlier in this review – are likely to be effective so could be implemented regardless of any objectives to decrease body weight.

3.3 Combined approaches

3.3.1 Background

These studies are similar to the previous category in that they combine physical activity and dietary approaches; the difference is that they measure behavioural outcomes rather than focusing on body weight. Two reviews are included: Hutchinson & Wilson (2012) which is a meta-analysis of intervention studies; and Groeneveld et al., (2010) which is a systematic review of lifestyle-focused interventions in the workplace to reduce the risk of cardiovascular disease (CVD).

3.3.2 Key findings

Hutchinson & Wilson (2012) identified 29 relevant studies examining physical activity or nutrition interventions in the workplace. Interventions were grouped according to the theoretical framework on which the interventions were based (e.g. education, cognitive-behavioural, motivation enhancement, social influence, exercise). Most theoretical approaches were associated with small effects. However, large effects were found for some measures of interventions

using motivation enhancement. Effect sizes were larger for studies focusing on one health behaviour and for randomised controlled trials. The authors concluded that while the workplace is a suitable environment for making modest changes in the physical activity, nutrition and health of employees, further research is necessary to determine whether these changes can be maintained in the long term.

Groeneveld et al., (2010) reviewed 31 RCTs, describing a diversity of interventions (e.g. counselling, group education, or exercise). Strong evidence was found for a positive effect on body fat, one of the strongest predictors of CVD risk. Among populations "at risk", there was strong evidence for a positive effect on body weight. Due to inconsistencies in results between studies, there was no evidence for the effectiveness of interventions on the remaining outcomes. The authors concluded that there is strong evidence for the effectiveness of workplace lifestyle-based interventions on body fat and, in populations at risk for CVD, body weight. Populations with an elevated risk of CVD seemed to benefit most from lifestyle interventions; supervised exercise interventions appeared the least effective intervention strategy.

3.3.3 Summary of findings and implications

- Interventions in the workplace that combine diet and physical activity interventions can be effective among employees at high risk of CVD.
- Interventions that focus on a single behaviour may be more effective.
- Employers might therefore consider implementing combined diet and physical activity programmes for employees at risk of CVD.

3.4 Alcohol

3.4.1 Summary of studies

Only one review by Webb et al., (2009) was retrieved – this reviewed studies to determine which interventions effectively reduced workplace alcohol problems.

3.4.2 Key findings

Ten papers reporting on workplace alcohol interventions were included. Only four studies employed RCT, but all these had methodological problems. All except one study reported statistically significant improvements in outcomes such as reduced alcohol consumption, binge drinking and alcohol problems. The authors concluded that brief interventions, interventions contained within health and lifestyle checks, psychosocial skills training and peer referral have the potential to produce beneficial results in reducing alcohol-related harm among employees.

3.4.3 Summary of findings and implications

- Employers who have identified alcohol-related problems as a priority, should consider implementing programmes including: brief interventions, interventions contained within health and lifestyle checks, psychosocial skills training and peer referral.

3.5 Musculoskeletal disorders (including back pain)

3.5.1 Background

There is a considerable body of review-level evidence available (15 reviews) to assess effectiveness for these disorders especially with respect to neck/upper extremity and shoulder pain (Aas et al., 2011; Boocock et al., 2007; Dick et al., 2011; Gross et al., 2012; Hoe et al., 2012; Kennedy et al., 2010; Larsson et al., 2007; Verhagen et al., 2009; Williams et al., 2004). Of these nine reviews, four were published by the Cochrane Collaboration (Aas et al., 2011; Gross et al., 2012; Hoe et al., 2013; Verhagen et al., 2009).

A further three reviews explored interventions in low back pain (Bell and Burnett, 2009; Karjalainen et al., 2008; Tveito et al., 2004) of which the review by Karjalainen et al., 2008 was published by the Cochrane Collaboration.

The three remaining reviews explored musculoskeletal symptoms more generically; van Niekerk et al., (2012) assessed the effectiveness of modifying workstation seating on musculoskeletal symptoms. Palmer et al., (2012) reported on the effectiveness of workplace-based interventions to manage musculoskeletal-related sickness absence and job loss, and finally Carroll et al., (2010) assessed the effectiveness and cost effectiveness of workplace interventions in facilitating employees with back pain in returning to work.

Despite the volume of evidence, the quality of evidence in this field of study is still low-moderate in most cases and studies/interventions show high levels of heterogeneity, thus making comparison and recommendation for practice challenging.

3.5.2 Key findings

3.5.2.1 Neck/upper extremity/shoulder

The first main group of reviews, particularly focus on ergonomic interventions with or without additional intervention components (Boocock et al., 2007; Dick et al., 2010; Hoe et al., 2013; Kennedy et al., 2010; Verhagen et al., 2009; Williams et al., 2004).

The review by Verhagen et al., (2009) assessed the effectiveness of ergonomic and physiotherapy interventions for treating work-related complaints (including MSK disorders) of the arm, neck or shoulder (14 studies). The review assessed a range of types of interventions including exercises, manual therapy, massage, ergonomics, and energised splints. Limited evidence of effectiveness was found: of exercise when compared to massage; of adding breaks during computer work; massage as add-on treatment to manual therapy and keyboards with an alternative force-displacement of the keys. Dick et al.'s., review (2010) also corroborated this last result by reporting that computer keyboards with altered force displacement characteristics were effective in reducing carpal tunnel syndrome symptoms, and modified keyboards could reduce symptoms of tenosynovitis. Dick et al. also reported that there was limited, high quality evidence of effectiveness of multidisciplinary rehabilitation for non-specific musculoskeletal arm pain in workers who had been absent from work for at least four weeks.

A further review by Boocock et al., (2007) added some evidence to support the use of mechanical and modifier interventions for preventing and managing neck/upper extremity conditions in VDU workers – such as mouse and keyboard design. Hoe et al.'s review (2013) assessed the effectiveness of ergonomic design and training for preventing work-related musuloskeletal disorders of the upper limb and neck. These authors reported evidence from 13 RCTs and found moderate-quality evidence of effectiveness to suggest the use of an arm support with alternative mouse may reduce incidence of neck/shoulder musculoskeletal disorders. An earlier review by Williams et al., (2004) of the effectiveness of workplace rehabilitation interventions on upper extremity disorders stated that there was no evidence of effectiveness to date however a later review by Kennedy et al., (2010) stated moderate evidence of effectiveness for arm supports and limited evidence of effectiveness for ergonomic training with workstation adjustment.

The next group of reviews focused on workplace interventions and the alleviation of neck pain (Aas et al., 2011; Gross et al., 2012) and neck-shoulder pain (Larsson et al., 2007). The review by Aas et al., (2012) aimed to assess effectiveness of patient education for neck pain and included 15 studies. However the evidence was of very low quality and failed to show effectiveness of educational interventions in various neck disorders. Aas et al., (2011) included 10 RCTs in their review, which aimed to assess workplace-based interventions: they reported no intervention effect on neck pain severity, and moderate quality evidence of effectiveness on sick leave at six month follow-up (but not three or 12 month follow-up). However this evidence was from one trial only where there were few employees with sickness data. Larsson et al., (2007) reviewed the risk factors and effectiveness of preventive interventions on neck pain using a systematic search strategy and concluded that evidence to date suggested the key risk factors associated with neck-shoulder pain are being female (which may be due to type of work women undertake); repetitive movements, high force demands, work posture, vibration and computer work (postural constraint), work-related psychosocial stress and high work demand.

Implications for practice regarding neck/shoulder/upper extremity pain prevention and management the following interventions should be considered:

- Exercise;
- Adding breaks during computer work;
- Massage as add-on treatment to manual therapy;
- Keyboards with an alternative force-displacement of the keys;
- Multidisciplinary rehabilitation for non-specific musculoskeletal arm pain
- Arm support with alternative mouse;
- Ergonomic training with workstation adjustment;
- Use of a multidisciplinary approach involving physical, psychosocial and organisational components;
- Participatory approach involving employees and stakeholders
- Primary prevention in physically heavy manual jobs;
- Reduce exposure to biomechanical risk factors through organisational changes and workplace adjustments;
- Reduce sedentary behaviour as sedentary workers with low levels of leisure-time activity have higher prevalence of neck disorders (see Proper et al., 2003);

- Strength/resistance training as an intervention for decreasing neck pain severity.

3.5.2.2 Lower back pain

In this group of three reviews, the first by Karjalainen et al., (2008) was a Cochrane review of multidisciplinary, biopsychosocial rehabilitation (involving a physician's consultation plus either a psychological, social or vocational intervention, or a combination of these) for sub-acute low back pain among employees. Two studies, both RCTs, were included but overall methodological quality was low. There was moderate evidence of effectiveness for multidisciplinary rehabilitation, which included a workplace visit or more comprehensive occupational healthcare intervention, including increased speed of return to work, fewer sick days and alleviation of subjective disability.

The review by Tveito et al., (2004) included 28 studies (31 papers). Only exercise showed significant effects on low back pain, business outcomes (sick leave) and cost-benefits. There was limited evidence for significant positive effects from exercise on sick leave, costs and new episodes of low back pain, but no evidence of effect of exercise on level of pain. There was limited evidence of effect of multidisciplinary interventions (physical therapy, exercise, ergonomics, behaviour therapy and pain prevention) on level of low back pain.

Bell and Burnett's review (2009) assessed the effect of exercise intervention on primary, secondary and tertiary prevention of low back pain in the workplace (and included 15 studies). Methodological limitations such as heterogeneity and lack of consistency across intervention components make it difficult to draw definitive conclusion on efficacy of exercise in preventing low back pain. However, two studies provided high quality evidence that exercise was effective in reducing severity of low back pain.

Implications for practice regarding low back pain prevention and management:

- Consider multidisciplinary rehabilitation that includes a workplace visit, for employees with sub-acute low back pain.
- Ensure exercise is included as part of a multidisciplinary approach (including other therapies such as physical, behavioural).

3.5.3 Other reviews

The review by van Niekerk et al., (2012) assessed the effectiveness of modifying the workstation seating on musculoskeletal symptoms. This was a small scale review involving only five studies (three RCTs) and considerable heterogeneity. The amount of evidence was low-moderate to support the use of chair-based interventions particularly those involving adjustable chairs for office-based staff who are sitting for long-periods.

Palmer et al., (2012) reported on the effectiveness of workplace-based interventions to manage musculoskeletal-related sickness absence and job loss and included 42 studies in their review (34 RCTs) – of these 30 studies included prescribed exercises, 37 promoted behavioural change, 17 were in the workplace (ergonomic assessment for example) and 10 provided additional

services (interventions were often applied in combination which makes component analysis of intervention effectiveness difficult). Twenty-one studies provided data on sickness absence. The mean reduction in sickness absence in intervention vs. control group was 1.11 days/month. Few differences were found by anatomical site but consistently across all categories of outcome. Benefits of intervention were greater in those workers who had less than 12 weeks of sickness absence at baseline when compared with workers who had had more sick leave. Interestingly those that involved brief interventions, less than 12 hours in total were more effective than those that took longer. Cost effectiveness analysis was conducted on eight studies, however no study proved or disproved a return on investment.

Overall the quality of evidence in this review was low-moderate and very tentative recommendations for practice include: referral to a physiotherapist, rehabilitation specialist, occupational physician or GP; appointing a case manager, employing intensive multidisciplinary treatment over several weeks, small group CBT or back school programmes providing education on stress and coping. It may be judicial for employers to invest in brief rather than expensive longer-term interventions.

The final review by Carroll et al., (2010) assessed the effectiveness and cost effectiveness of workplace interventions in facilitating employees with back pain in returning to work. Nine studies (8 RCTs) were included) and were of good or moderate quality. Interventions involving the employee, health practitioner and employer working together in implementing workplace modifications showed significant improvement in return to work rates; and three studies also showed intervention groups required significantly shorter time to return to work. Two moderate quality economic evaluations (RCTs) were included and these indicated that those with a workplace component were more effective than those without. Of these, one study reported cost per return to work-day gained was £17 and the other reported cost per day on full benefits saved was £46 and the cost-benefit ratio was 1/7.7. The differences in these two figures are due to the different measures used, different contexts, and different factors such as salary costs etc. In this respect, the first measure indicates that intervention that helps employees to return to work sooner, costs £17 per day gained (i.e. the intervention itself costs £17), therefore the greater the employee salary the greater the saving. In the second case, when both a cost-benefit analysis and a cost-effectiveness analysis are carried out, then the overall cost saving for the insurance provider by the intervention is £46. The conclusions of this study were that stakeholder participation and work modification were more effective and cost effective at helping employees with musculoskeletal conditions on sick leave return to work when compared with less collaborative workplaces offering exercise or usual care.

3.5.4 Summary of findings and implications

- Consider ergonomic chair-based interventions and workplace modifications;
- Use a comprehensive, multidisciplinary approach such as - referral to a physiotherapist, rehabilitation specialist, occupational physician or GP; appointing a case manager, employing intensive multidisciplinary treatment over several weeks, small group CBT or back school programmes providing education on stress and coping;

- Invest in brief rather than expensive longer-term interventions;
- Ensure stakeholder involvement in workplace decision-making regarding treatment/intervention;
- Implications for practice regarding neck/shoulder/upper extremity pain prevention and management the following interventions should be considered:
    - Exercise;
    - Adding breaks during computer work;
    - Massage as add-on treatment to manual therapy;
    - Keyboards with an alternative force-displacement of the keys;
    - Multidisciplinary rehabilitation for non-specific musculoskeletal arm pain;
    - Arm support with alternative mouse;
    - Ergonomic training with workstation adjustment;
    - Use of a multidisciplinary approach involving physical, psychosocial and organisational components;
    - Participatory approach involving employees and stakeholders;
    - Primary prevention in physically heavy manual jobs;
    - Reduce exposure to biomechanical risk factors through organisational changes and workplace adjustments;
    - Reduce sedentary behaviour as sedentary workers with low levels of leisure-time activity have higher prevalence of neck disorders (see Proper et al., 2003);
    - Strength/resistance training as an intervention for decreasing neck pain severity.

3.6 Return to work, sickness absence and presenteeism

3.6.1 Background

Five reviews were included in this section (Cancelliere et al., 2011; Desiron et al., 2011; Franche et al., 2005; Higgins et al., 2012; Schaafsma et al., 2013;). Schaafsma et al. (2013) assessed the effectiveness of physical conditioning (also known as work conditioning or hardening, or functional restoration and exercise programmes) on speed of return to work (reduced sickness absence) and back pain. Higgins et al., (2012) conducted a systematic review to identify the dominant programme theories underlying best practice in the management of long term sickness absence. Both Franche et al., (2005) and Desiron et al., (2011) conducted reviews of effectiveness of return to work interventions; Desiron et al.'s review was specifically focused on the role of occupational therapy in return to work. The final review by Cancelliere et al., (2011) assessed the effectiveness of health promotion programmes at improving 'presenteeism' (defined as 'being present at work, but limited in some aspect of job performance by a health problem) in workers.

3.6.2 Key findings

Interventions (RCTs only) to speed up return to work following time off due to back pain were considered by Schaafsma et al., (2013). As with other interventions, 'usual care', was compared with additional support to aid a speedy return to work. For acute back pain (duration of symptoms less than six weeks) interventions, which included light and intense physical conditioning

aimed at improving back strength and flexibility, did not appear to have any effect on sickness absence duration.

For sub-acute back pain (duration of symptoms more than six weeks but less than 12 weeks), the results of intense physical conditioning (more than five sessions up to full time or as inpatient treatment) were not clear, although there was some evidence (out of the four studies) that if the intervention was executed at the workplace, or included a workplace visit, at 12 months follow-up it may have reduced sickness absence duration.

In respect of chronic back pain (duration of symptoms more than 12 weeks), light physical conditioning did not seem to have an effect on reducing sickness absence, although intense physical conditioning did. Involving the workplace, physical conditioning that was part of an integrated care management also seemed to have some positive effect on sickness absence, but more research is needed. The components that seem to make physical conditioning more effective are workplace visits or carrying out the intervention at the workplace.

Higgins et al., (2012) conducted a systematic review to identify the dominant programme theories underlying best practice in managing long term sickness absence. They set out to assess the evidence for these theories and highlight any enabling or disabling factors. The theories related to: having proactive organisational procedures: good communication and cooperation between stakeholders; and workplace-based occupational rehabilitation programmes.

Evidence in respect of early intervention was not conclusive, although there is a growing body of evidence when early intervention is undertaken within or in collaboration with the workplace that the likelihood of more positive outcomes increased. Higgins et al., (2012) highlighted that not intervening early could be due to contextual factors, for example, such long waiting times for medical treatment, or poor communication.

Similarly, the theory that indicated that 'proactive organisational procedures', such as robust sickness absence policies with specific trigger points, often in combination with preventative measures (e.g. ergonomic assessment/equipment), rewards, attendance bonuses, flexible working and sanctions can improve the management of long-term sickness absence (LTSA), was not supported by the literature. Higgins et al., (2012) highlight contextual factors, for example poor implementation, or the weight of factors impacting on sickness absence, e.g. organisational change, relations between employers and employees, line management, may prevent these types of interventions from being effective.

Looking at theories which emphasise the importance of communication and co-operation between stakeholders in managing long term sickness absence, there is consensus in the literature that successful management of LTSA is vitally influenced by levels of communication and cooperation – although the supporting evidence is limited and the direct association with reduced duration of LTSA is weak.

In respect of the final theory, that multidisciplinary work-based occupational rehabilitation and provision of modified duties can facilitate an earlier return to work in LTSA, there is good evidence, and the evidence base is growing, that

links successful outcomes with the provision of rehabilitation programmes carried out within or in close collaboration with the workplace (re-iterated by Schaafsma et al., 2013). Most of the evidence is relates however to MSDs and work-related injuries however, rather than other health conditions, for example mental health. In respect of the provision of modified duties, there is some evidence that this can facilitate early return to work, although the evidence on MSDs is stronger.

Higgins et al., (2012) concluded that the context of the intervention is very important for its success, and that organisations should have 'at least a mutual understanding (if not a common purpose) in relation to their perception of interventions, goals, culture and practice in the management of long term sickness absence'. The most important contextual factors are:

- The level of support for interventions from top management;
- The size and structure of the organisation;
- The level of financial and organisational investment in the management of LTSA;
- The quality of the relationships between managers and staff.

In line with the Higgins et al., (2012) and Schaafsma et al.'s., (2013) findings, Franche et al., (2005) found that in respect of workplace-based return to work interventions, there was strong evidence that work disability duration was significantly reduced by work accommodation offers and contact between healthcare provider and the workplace (70% of the studies in their review related to MSDs). Their review also found moderate evidence that disability duration is reduced by interventions which include early contact with the worker by the workplace, ergonomic work site visits and the presence of a return to work coordinator, a finding supported by Higgins et al., (2012).

Desiron et al., (2011) included six studies in their review of occupational therapy (OT) and its role in return to work. OT interventions focus on 'developing, improving, and restoring dialing living skills, work readiness, work performance, play skills, leisure capacities and enhancing educational performance skills (pg. 616). The studies they included focused on: chronic low back pain (n=2), low back injury (n=1), whiplash injury (n=1), Traumatic brain injury (military personnel) (n=1) and major depressive disorder (n=1). Similar to the reviews above, the focus is on MSDs or injury, with only one intervention related to mental health. In line with the reviews above, OT interventions were found to increase return to work rates, with the caveat that the methodological evidence in most of the studies is weak. Looking in particular at the intervention that focused on mental health, Schene et al., (2007, cited in Desiron et al., 2011), adding OT to the usual treatment (delivered by a psychiatrist) was found to accelerate return to work, although it did not accelerate recovery from depression.

Cancelliere et al., (2011) highlighted the factors associated with risk of presenteeism as: being overweight, having a poor diet, a lack of exercise, high stress, and poor relations with co-workers and management. Strong evidence was found for improved presenteeism outcomes in respect of two studies. The first involved worksite exercise and the second looked at the impact of a supervisor education programme focused on mental health promotion. Eight additional interventions were found to have some positive impacts. These were

wide ranging, including: an e-mail intervention, extra rest break time for workers engaged in highly repetitive work, a multi-disciplinary occupational health programme, participatory processes (two studies), exposure to blue-enriched light, as opposed to white light; and a telephone intervention programme for depressed workers. Four interventions were found to be unsuccessful, these included: the implementation of a computer mouse with a feedback signal to prevent hovering behaviour; a multi-dimensional programme for low back pain prevention; specific resistance training and all-round physical exercise; and worksite exercise/reduced work hours.

Cancelliere et al.'s., (2011) overall findings highlighted preliminary evidence that exercise is beneficial at improving presenteeism, and in respect of mental health, an educational mental health programme for managers, depression screening and a depression outreach-treatment telephone programme were also beneficial. Their findings suggested that workplace health promotion should address psychosocial as well as physical factors at work, with participatory interventions found to be most effective. They also found that creating a positive work environment can help to reduce health risks and improve productivity in the workplace. They highlighted that "*the most important issue for organisations to address is not whether or not WHP programs should be implemented to reduce risks and enhance productivity, but rather how such programs should be designed, implemented, and evaluated to achieve optimal results.*" (p. 406)

The majority of reviews that looked at managing sickness absence or return to work focused on MSDs. Schaafsma et al., (2013) found that for acute back problems physical conditioning interventions were not effective, however, there was some evidence of effectiveness in sub-acute back pain, and for chronic back pain intense physical conditioning had a positive effective on sickness absence. The factors that seemed to make physical conditioning more effective are workplace visits or carrying out the intervention in the workplace, i.e. integrated care. Similarly, Higgins et al., (2012) and Franche et al., (2005) found that communication and co-operation between stakeholders (i.e. the provider and the workplace) in managing LTSA enhanced its effectiveness, with Higgins et al., (2012) and finding that multidisciplinary work-based occupational rehabilitation (supported by Desiron et al., 2011) and provision of modified duties can facilitate an earlier return to work (particularly in the case of MSDs).

Higgins et al., (2012) highlighted the important role of context to the effectiveness of the interventions, for example, they found that early referral seems to increase the likelihood of positive outcomes (supported by Franche et al., 2005); however, only if waiting times and treatment options were optimal. The most important contextual factors were found to be the: level of support for interventions from top management; size and structure of the organisation; level of financial and organisational investment in the management of LTSA; and quality of the relationships between managers and staff. Similarly Cancelliere et al., (2011) stressed the importance of the *how* workplace health promotion programmes are implemented, and concluded that they should address psychosocial as well as physical factors at work, with participatory interventions found to be most effective.

Only one intervention focused on mental health (Schene et al., 2007, cited in Desiron et al., 2011), finding that adding OT to the usual treatment (delivered by a psychiatrist) accelerated return to work, although it did not accelerate recovery from depression.

In respect of presenteeism, strong evidence was found for improved presenteeism in two studies, the first involved worksite exercise, and the second looked at the impact of a supervisor education programme focused on mental health promotion. A range of other wide-ranging interventions were also found to have some positive benefits.

3.6.3 Summary of findings and implications

- The context of the intervention is an important facilitator to effective interventions managing sickness in the workplace, particularly in respect of MSDs. The most important contextual factors are: level of support for interventions from top management; the size and structure of the organisation; the level of financial and organisational investment in the management of long-term sickness absence; and the quality of the relationships between managers and staff.
- Participatory, integrated interventions, involving the workplace and the provider were found to be most effective, with intense conditioning facilitating an accelerated return to work in chronic and sub-acute back pain, but not in acute back pain.
- In respect of mental health, there was limited evidence, although one study found that occupational therapy (delivered by a psychiatrist) accelerated return to work, and a supervisor education programme focused on mental health promotion was found to be effective in improving presenteeism.

3.7 Psychosocial working environment (including stress and mental health)

3.7.1 Summary of studies

Eleven reviews were included in this section: all addressed aspects regarding effectiveness interventions regarding the working environment (including working practices) and psychological outcomes (including mental health and well being, and depression). Of these, four reviews addressed the effectiveness of interventions to treat people with depression (Furlan et al., 2012; Martin et al., 2009; Nieuwenhenhuijsen et al., 2008); with one specifically looking at the effectiveness of workplace counselling (McLeod, 2010).

Three reviews assessed interventions aimed at reducing stress in the workplace (Damiani et al., 2006; Lamontagne et al., 2007; Richardson & Rothstein, 2008), two investigated the promotion of positive mental health in the workplace (Corbiere et al., 2009, Graveling et al., 2008) and one further review reported on mental health and employment (Robinson et al., 2010)

Interventions included approaches such as: cognitive behavioural therapy; occupational therapy; anti-depressant medication; psychodynamic therapy; enhanced primary care and psychological treatment; multimodal approaches (approaches using more than one technique or method); stress management; personal support, social skills, and coping skills training.

3.7.2 Key findings

3.7.2.1 Treatment of depression

Martin et al., (2009) conducted a meta-analysis of the effects of health promotion interventions in the workplace on depression and anxiety symptoms. They included 17 studies in the meta-analysis, representing 20 intervention-control comparisons. Interventions were broad ranging, and included: increasing physical activity; CBT (including computerised programmes); work stress reduction, including problem solving techniques and changes to the work environment; motivational interviewing; improving knowledge in respect of mental health; active commuting behaviour; counseling; and meditation. The pooled results indicated small, but positive overall effects of the interventions with respect to symptoms of depression [SMD 0.28, 95% confidence interval (95% CI) 0.12-0.44] and anxiety (SMD 0.29, 95% CI 0.06-0.51), but no effect on composite mental health measures (SMD 0.05, 95% CI -0.03-0.13). The interventions that included a direct focus on mental health had a comparable effect on depression and anxiety symptoms, as did the interventions with an indirect focus on risk factors. The authors concluded that a broad range of health promotion interventions appears to be effective in reducing symptoms of depression and anxiety in employee populations, although the effect is small.

Furlan et al.'s review (2012) of intervention practices for depression in the workplace included ten randomised trials and two non-randomised studies that evaluated a wide range of intervention practices. The evidence was graded as 'very low' for all outcomes identified, and the authors felt they could not recommend any specific intervention, primarily due to the lack of studies and a range of biases in the studies, including selection, performance, attrition, reporting and measurement bias. The authors concluded that 'there is insufficient quality of evidence to determine which interventions are effective and yield value to manage depression in the workplace'.

Neiuwenhenhuijsen et al., (2008) included eleven intervention studies in their review, (involving 2556 participants), which assessed the effectiveness of interventions to improve occupational health in depressed people. Interventions included: occupational therapy; anti-depressant medication; psychodynamic therapy, enhanced primary care and psychological treatment. There was no reported difference between antidepressant medication and alternative medicine in respect of number of day's sickness absence. Two pooled studies (n=969), showed no difference in the medium term for enhanced primary care compared to usual care. All of the other comparisons were based on single studies (n=6), which all showed a lack of significant difference in respect of sickness absence between all the groups, with the exception of one small study, which combined psychodynamic therapy with antidepressants, and found the combined treatment to be more effective than antidepressants alone.

Neiuwenhenhuijsen et al., (2008) concluded that there was no evidence of an effect of medication alone, enhanced primary care, psychological interventions or the combination of those with medication on levels of sickness absence in depressed workers. They recommend that future RCTs should

specifically address work issues, and that occupational outcomes should be used to measure the effect.

McLeod (2010) considered the effectiveness of workplace counselling, defined as an intervention that is a) voluntarily chosen by the client; b) responsive to the individual needs of the client; and c) primarily intended to bring about change in an area of psychological/behavioural functioning. Counselling was either in-house or externally provided by the employers. Studies were categorised into four themes: client satisfaction; psychological functioning; the meaning of work; and work behaviour. Looking at these in turn, substantial evidence was found in respect of client satisfaction with counselling services; the balance of evidence supports the fact that participation in workplace counselling is generally effective in ameliorating symptoms of stress and low wellbeing; similarly the balance of evidence supports the position that workplace counseling is generally effective in bringing about a reduction in symptoms of depression; and there is also evidence from a small number of studies that workplace counseling can be beneficial for a range of work-related psychological and behavioural problems such as anxiety, low self-esteem, emotional burnout, occupational PTSD and substance abuse. However, the evidence supports short-term effects, less is known about long-term impacts, and further research is recommended in this respect.

McLeod (2010) reported that while workplace counselling may have the potential to change workplace attitudes, in the majority of studies clients were not reporting sufficient severity of work attitude dysfunction for this to be a measurable outcome. The review concluded that counselling has a consistent and significant impact on important dimensions of work behaviour, in terms of reduced sickness absence and enhanced work functioning (again, measured in the short-term).

3.7.2.2 Stress

Richardson & Rothstein (2008) conducted a meta-analysis of occupational stress management intervention programmes. The studies included mainly assessed interventions that were aimed at reducing the severity of an employee's stress symptoms, as opposed to preventing them occurring. They found thirty-six experimental studies, representing 55 interventions. The interventions were diverse, comprising: stress reduction/education seminars; meditation; relaxation training, including muscle relaxation and deep breathing; CBT skills; goal setting; exercise; social support groups; journaling of stressful events; assertiveness training; stress inoculation training; and personal skills development. They found a 'significant medium to large effect' for interventions including cognitive-behavioural, relaxation, organisational, multimodal, or alternative. Cognitive-behavioural programmes consistently produced larger effects than other types of interventions, but if additional treatment components were added the effect was reduced. Within the sample of studies, relaxation interventions were most frequently used, and organisational interventions continued to be scarce. Effects were based mainly on psychological outcome variables, as opposed to physiological or organisational measures.

Damiani et al., (2006) reviewed the effect of stress management programmmes on work-site absenteeism. They found nine studies that met their inclusion criteria. Again, the majority of the interventions were individual (including relaxation, CBT, stress management training), rather than organisational (participation in decision making). The studies showed that stress management programmes were effective in reducing reduced absenteeism shortly after the intervention, but there was no evidence to support a long-term impact. The authors concluded that future studies should evaluate stress management programmes that consist of repeated interventions over longer periods of time, focusing on effectiveness and relative costs

Lamontagne et al., (2007) conducted a systematic review of interventions aiming to reduce job-related stress. The review assessed systematic evaluations of job-stress interventions in terms of the degree of systems approach used i.e. primary/preventative (e.g. job redesign, workload reduction etc.), secondary/ameliorative (CBT, coping classes, stress management etc.), or tertiary/reactive (e.g. return to work programmes, medical interventions etc.). Interventions were rated depending on the degree to which a systems approach had been applied, i.e. 'high' rated studies were assigned to studies where primary prevention was the predominant approach, integrated with either secondary or tertiary approaches. 'Moderate' ratings were applied to studies conducting primary prevention studies, but nothing else, and a rating of 'low' was assigned to studies that included little or no primary preventive interventions.

Studies using high and moderately rated systems are increasing, which is a favourable finding. The authors concluded that "individual-focused", low-rated approaches are effective at the individual level, favourably affecting individual-level outcomes, but tend not to have favourable impacts at the organisational level. "Organisationally-focused" high- and moderate-rated approaches are beneficial at both individual and organisational levels.

3.7.2.3 Promotion of positive mental health

Graveling et al., (2008) carried out a systematic review of workplace interventions that promote mental wellbeing in the workplace, in order to inform the NICE guidelines (2009) 'Promoting mental wellbeing at work'.

Ten studies evaluated the effectiveness of interventions involving a participatory approach to organisation change on mental wellbeing. Four of the ten studies were given a positive rating, showing that the intervention improved mental wellbeing, although the quality of the studies were insufficient, and further research is required.

Graveling et al., (2008) considered the benefits of training managers and supervisors on mental wellbeing and found that web based training was not effective at improving the wellbeing of subordinate workers. Using face-to-face training, there were mixed results, a Japanese trial found no significant results, whereas a Swedish study in an insurance company found a significant reduction in psychological markers for stress in the intervention group.

In respect of altering shift work patterns, Graveling et al., (2008) found that taking a vacation or changing the shift system had a positive impact on mental

wellbeing and burnout in the short term, and there is evidence from a UK study of police officers that changing the shift system from seven day consecutive shifts to the 35 day Ottawa system can positively impact on mental wellbeing.

Two high quality studies examined the impact of psychosocial intervention training on burnout, although they were small studies, involving mental health workers. However, the studies indicated that psychosocial interventions can have a positive impact on burnout in the shorter term – the longer term is unknown.

Graveling et al., (2008) also examined stress management training (n=8) and found six studies that reported a positive impact on mental wellbeing, providing reasonable evidence that multi-faceted training, covering stress awareness, coping and stress reduction is an effective format. Paper based training (rather than web-based), and training involving a trainer or facilitator seemed to be more effective.

Counselling and CBT (using a computerised programme) were found to have a positive impact on mental wellbeing (Graveling et al., 2008). There was evidence of positive impacts of aerobic exercise on anxiety, and also of a combination of aerobic exercise and health education seminars/health counseling on mental health. The evidence is insufficient to support relaxation techniques or massage therapy and further research is needed in respect of meditation. Graveling et al.'s., (2008) review also found some evidence for a web-based lifestyle and health promotion training package. Graveling et al., (2008) concluded that overall tangible benefits in respect of mental wellbeing can be gained from the interventions described above.

Corbiere et al., (2009) reviewed preventive interventions regarding mental health issues in organisations. They found 24 studies on primary and secondary interventions regarding mental health issues in organisation. There was a predominance of studies utilising skills training, which focused on using workers skills to reduce the progression of mental health problems. The results confirmed the tendency secondary type interventions to be mostly used, as opposed to the more demanding, and potentially expensive primary interventions. In addition, it is easier to measure the effectiveness of secondary level interventions. One-third of studies used a combination of individual, group and organisation level interventions, most often supported by psychosocial intervention or participatory research. The authors concluded that these components brought positive and significant results with regard to work and mental health outcomes to workers.

3.7.3 Summary of findings and implications

- The findings in respect of depression are that small positive effects have been found for a broad range of interventions, including increasing physical activity, CBT, work stress reduction, motivational interviewing improving knowledge in respect of mental health active commuting behaviour, counseling and meditation. However, the evidence was in respect of short-term, rather than long-term outcomes;
- There was evidence, from a small number of studies that workplace counseling can be beneficial for a range of work-related psychological and behavioural problems such as anxiety, low self-esteem, emotional burnout,

occupational PTSD and substance abuse. Again, the evidence was in respect of short-term, rather than long-term outcomes;
- CBT programmes (including web-based CBT) seem to produce larger effects than the other interventions – particularly in respect of stress.
- Organisationally focused, high- and moderate-rated approaches (i.e. those that focus on primary prevention, and secondary/or tertiary) have been found to be beneficial at both individual and organisational levels;
- It would be worth companies considering participatory interventions that focus on the organisation, as well as the individual, which seem to be most effective in improving mental health in the workplace;
- There was some evidence of face-to-face training for managers being effective in reducing stress markers in their staff. Stress management training, preferably paper-based and involving a trainer seemed to be more effective than computer based training;
- There was some evidence that changing work hours/shift patterns was effective, at least in the short term.

3.8 Organisational, environmental and health and safety approaches

3.8.1 Background

Eight reviews were included in this section: five reviews focused on organisational level interventions (Bambra et al., 2007 & 2009, Egan et al., 2007 & 2009, Engbers et al., 2005); two focused on the effectiveness of occupational health and safety interventions (Robson et al., 2007 & 2012) and one assessed flexible working conditions (Joyce et al., 2010).

3.8.2 Key findings

Considering 'organisation-level' workplace interventions and those aimed at environmental changes (Bambra et al., 2007 & 2009, Egan et al., 2007 & 2009, Engbers et al., 2005): the earliest review (Engbers et al., 2005) investigated the impact of environmental interventions aimed at stimulating healthy diet intake (n=10) or physical activity (n=3). Interventions aimed at diet included; canteen changes in respect of the availability of healthy foods/low-fat options/fruit and vegetables; advertising campaigns encouraging healthy eating habits; reviews/changes of products sold in vending machines; and food labeling. In respect of physical activity: encouraging the use of stairs; providing a walking track; and lunchtime walking were interventions included in the review. All of the interventions were multi-component, three of them including environmental modifications to stimulate physical activity. There was inconclusive evidence in respect of the effect on physical activity; however, there was strong evidence for an effect on dietary intake – although not on health risk indicators after one year. Engbers et al., (2005) concluded by stating that worksite interventions must be comprehensive and intensive to aggressively pursue environmental factors that could alter the workplace culture to become more health conscious.

Two reviews considered the effectiveness of occupational health and safety type approaches (OHSMS), one focusing on the effectiveness of health and safety management interventions (Robson et al., 2007), and the other focusing

on the effectiveness of occupational health and safety training (Robson et al., 2012). The earlier study (2005) reviewed both voluntary and mandatory OHSMS, and found positive outcomes. In respect of the voluntary OHSMSs, the studies were of 'moderate' quality, and findings indicated increased 'hazard reporting by employees, more organisational action taken on occupational and health issues and decreased workers compensation claims'. However, there was reason to suspect that publication bias might be related to the consistency of the positive results. In respect of the mandatory OHSMSs, again all the studies were positive, including; improved employee perceptions of the physical and psychosocial working environment; increased participation in health and safety activities; reduced rates of lost injury time; and increased productivity. Robson et al., (2007) stated that 'the synthesis of the best evidence available showed consistently positive effects in workplaces', whether voluntary or mandatory.

In their later paper in 2012, Robson et al. reviewed the effectiveness of training interventions in occupational safety and health. Twenty-two studies were included, of which the majority focused on ergonomic hazards (10). The two most frequently studied occupational groups were healthcare and office workers (six studies each). The interventions comprised lectures (20 interventions), printed materials (14), hands-on practice (14), and feedback (12). In respect of the control trials, the effects on training (versus no training) were all positive, and statistically significant. Only three of the 22 studies looked at attitudes and beliefs, however, similarly to knowledge, they all showed positive significant impacts. Looking at behaviours, again, the effects of training were generally positive, with only two yielding negative effects. In respect of health, usually performed at six-month follow up, the effects were generally positive, but effect sizes were small, and not consistent. The key findings were that there was a lack of good quality RCTs in the area of OHS training, which made firm conclusions difficult to draw – however, notwithstanding this, the overall results found strong evidence for the effectiveness of training workers on OHS behaviours, but insufficient evidence was found of its effectiveness on health.

Bambra et al.'s (2007) study looked at 'task restructuring interventions', which included interventions implemented at the organisational or department level that could affect workers' everyday psychosocial environment. On closer inspection, this review included four healthcare organisations, and manual and shop floor workers (predominantly in factories), so the review has limited relevance to City-type businesses. However it is interesting to note that team-working interventions did seem to improve the psychosocial work environment, although the health impacts were less apparent. Similarly Egan et al., (2007), looked at interventions aimed at increasing employee control, although, out of the 18 studies included, only three included office staff (2 reviewed UK Civil Servants, and one hospital based clerical staff). In Bambra et al.'s., study (2007) overall interventions that increased demand and decreased control tended to have an adverse effect on health, whereas those that decreased demand and increased control seem to result in improved health. Increases in workplace support did not seem to mediate this relationship. In Egan et al.'s., (2007) study eight controlled and three uncontrolled studies found some evidence of health benefits (particularly in respect of mental health, including reduced anxiety and depression) when employee control improved, or when demands decreased or support increased, although less consistently.

Bambra et al.'s., (2009) study considered the evidence on the effects on health and health inequalities of organisational changes to the psychosocial work environment, and found seven studies that met their inclusion criteria. Of these, three examined increased employee control, four evaluated the effects of changes to work organisation (e.g. shift work, privatisation). Interventions involving improved control included (n=3): health circles (staff discussion groups on improving potentially harmful working conditions); participatory committees; control over hours of work; task structure work re-organisation, enlarging task variety, collective decision making, and autonomous groups. Those that evaluated changes to work organisation (n=2) included: changes from eight-hour, five-day working week to compressed working 12/10, four day week; changes to shift work schedules/weekend work. Two interventions looked at the impact of privatisation, and one looked at the impact of legal health and safety regulations in a construction site. Bambra et al.'s., (2009) findings concluded that overall, there was evidence that organisational level changes to the psychosocial work environment, including control, can have generally beneficial effects on health, and could potentially impact on health inequalities amongst employees. Egan et al., (2007) concurred, stating that while some organisational-level participation arrangements might benefit employee health, they may not protect employees from generally poor working conditions, reflecting their results that two participatory interventions happening alongside redundancies reported worsening employee health. In 2009, Egan et al. reviewed the evidence on how interventions were implemented in organisational level workplace interventions, concluding that more detailed reporting of interventions, including qualitative reporting, would help the exploration of how interventions were implemented in a more systematic way. This would also allow better understanding of the value of implementation techniques in influencing the findings of specific evaluations.

Joyce et al., (2010) considered the impact of flexible working conditions and their effects on employee health and wellbeing, including 10 interventions in their review, of which there were six on temporal flexibility including: self-scheduling of shift work (n=4), flextime (n=1) and overtime (n=1), and four on 'contractual flexibility', including: partial/gradual retirement (n=2), involuntary part-time work (n=1), and fixed term contract (n=1). Four of the studies on temporal flexibility, and one of the studies on contractual flexibility reported statistically significant improvements in either primary outcomes (including systolic blood pressure and heart rate, tiredness, mental health, sleep duration, sleep quality and alertness and self-rated health status) or secondary health outcomes (co-worker support on sense of community) and had no ill health effects. Flextime was not found to have significant effects on either physiological or psychological outcomes. The overall findings suggest that flexible working interventions that increase worker control and choice are likely to have a positive effect on health outcomes, whereas those that were motivated or dictated by organisational interests (e.g. fixed term contracts or involuntary part-time employment) found equivocal or negative effects.

3.8.3 Summary of findings and implications

- Changing organisational/environmental factors, rather than targeting individuals, can be beneficial to employees' health and all of the

interventions discussed are options worth considering for implementation by businesses;
- The findings indicate strong evidence for dietary interventions that involved changes to vending machine/canteen facilities in respect of the availability of healthy foods/low-fat options/fruit and vegetables; advertising campaigns encouraging healthy eating habits; and food labeling – this counters some of the evidence from the lifestyle section of this report which did not find strong evidence for dietary intervention in the workplace;
- The findings in this section were less conclusive in respect of physical activity walking interventions but this should be countered by earlier findings in the lifestyle section which do report some limited evidence of short-term effectiveness for workplace walking programmes (Dugdill et al., 2008);
- Occupational health and safety interventions, including training, were generally found to have positive effects in the workplace;
- Training was found to have a positive impact on employee behaviours, although insufficient evidence was found in respect of its effectiveness on health outcomes;
- Interventions aimed at improving workers' everyday psychosocial environments, particularly in respect of job control (e.g. changes in work patterns/work hours, health circles, participatory committees and task structure/work organisation), can improve mental health outcomes and may reduce health inequalities;
- The findings were less clear in respect of increasing support, and more evidence is needed in respect of *how* interventions are being implemented.

3.9 Reviews of workplace health and wellbeing: economic returns on investment

Earlier in this report, (section 3.1 – multi-component health and wellbeing interventions) four additional reviews were identified as including either economic evidence of effectiveness and/or evidence regarding business indicators (e.g. reduced sickness absence) (Hill et al., 2007; Oscilla et al., 2012; Parks and Steelman, 2008; and Soler et al., 2010).

Regarding musculoskeletal interventions (section 3.5) three further reviews are relevant to this section: the first by Palmer et al., (2012) reported on the effectiveness of workplace-based interventions to manage musculoskeletal-related sickness absence and job loss, and the second by Carroll et al., (2010) assessed the effectiveness and cost effectiveness of workplace interventions in facilitating employees with back pain in returning to work. The final review by Tveito et al., (2004) assessed effectiveness of a variety of interventions on absenteeism, costs and low back pain.

In respect of reviews that focused solely on economic returns on investment, four systematic reviews were included (Baicker et al., 2010, Van Dongen et al., 2011 & Van Dongen, 2012; Verbeek et al., 2009). The overall aims of these papers were to review studies where cost effectiveness had been reported.

3.9.1 Key findings

Looking at these in turn, Verbeek et al., (2009) focused on occupational safety and health interventions (OSH), reviewing 26 reported cases to assess if health

and productivity arguments made good business sense, as studies show that legal, moral and financial reasons are the key drivers for business to engage in OSH. Their inclusion criteria were 1) included studies involved an OSH intervention that aimed to improve or maintain worker health, safety and wellbeing in the setting of the workplace or occupational services, 2) contained any measurement of a) productivity, b) health or injury, and c) the costs and benefits in monetary terms. They used total costs of the intervention and first year's benefits across all of the interventions, calculating this per worker per year, using the calculation: (benefits in the first year) – (total costs) / number of workers involved in the case.

The vast majority of the interventions (n=19) they reviewed focused on ergonomic interventions, including: training in respect of patient handling, interventions to reduce back pain due to lifting/heavy physical work, and exercise/physiotherapy or purchase of equipment (including chairs/office equipment) to prevent back pain. Other inventions included were: a substance abuse programme to prevent injuries in a transportation company, change of footwear to prevent slip-related injuries, needleless intravenous access system to prevent needle stick injuries and pre-employment drug screening. Seven cases were carried out in the healthcare sector. Geographically the interventions were diverse: 10 in the United States, seven in Canada, four in Sweden, two in the UK, and one each in the Netherlands, Malaysia and Finland. Only one of the studies involved a RCT, two used a controlled before-after study design and two used an interrupted time-series design – the majority (18) were before-after comparison without a control group. Per worker costs ranged from one euro to 11,655 euros, with most cases reporting lack of sickness absence as a benefit. In most cases intervention profitability ranged between five to 500 euro per worker per year (median 214 euro), in seven cases it was negative (due to heavy investment in equipment in the first year) and in 19 cases intervention profitability was positive, meaning that the intervention was paid back by the resulting benefits within one year (with no differences in findings for large or small firms). Verbeck et al., (2009) reported that the median of 214 euro was difficult to interpret due to the way profits were reported, although they reported that the majority of cases reported showed sufficient intervention profitability to be acceptable to management. Three cases forecast that the OSH interventions they had put in place would be profitable.

Verbeck et al., (2009) highlighted that 'it is clear that unfavourable business cases would not be published since the whole idea of a business case is that it provides a rationale for investment', and as a result of this warned against the generalisability of their results. Additional limitations were the fact that hardly any of the findings reported 'uncertainty' (which they should have) or 'intangible benefits about their results' (such as the avoidance of damage to corporate reputation). In terms of productivity increases, only two cases (which were exceptional) reported large productivity increases.

Baicker et al., (2010) conducted a critical meta-analysis of rigorous studies, which reported on workplace wellness programmes and their impact on healthcare costs and absenteeism, all of which took place in large organisations (average sample size of 3,000 employees per group). The focus on the study was the US whereby about 60% of Americans get their health

insurance coverage. Although in 2004 a National Worksite Health Promotion Survey showed that only 7% of employers offered comprehensive health promotion programmes, which included health education, worksite screening linked to appropriate medical care, and integration of the programme into the organisational structure. Baicker et al., (2010) highlight that most studies lack adequate control or comparison groups, which makes them unable to account for possible unobserved variables which might account for differences in costs between participants and non-participants (e.g. the healthiest and most motivated people disproportionately enrolling in programmes that are voluntary). In addition, they highlighted the publication bias (see also Verbek et al., 2009), whereby only positive results are published, low response rates, and difficulties in matching cases, which calls into question the generalisability or robustness of findings. In an attempt to mitigate against some of these limitations Baicker et al.'s., (2010) review only included those studies which satisfied the following criteria: 1) a well-defined intervention, 2) well-defined treatment and comparison group, and 3) analysed a distinct new intervention, rather than further analysis of an intervention already examined in one of the other studies. Included in their sample 25% of employers were in financial services.

The most frequently used method of delivery included health risk assessment (80% of studies), followed by a tailored intervention, for which participation was voluntary. Assessments are commonly used in conjunction with a clinical screening of risk factors, including blood pressure, cholesterol, and BMI. This was followed with the provision of self-help education materials, individual counselling, or on-site group activities led by trained personnel. Thirty percent of programmes included incentives. Interventions were most commonly focused on obesity and smoking cessation, with over 60% explicitly focusing on weight loss and fitness. Eighty percent of the programmes focused on a number of risk factors, including stress management, back care, nutrition, alcohol consumption, blood pressure, and preventive care. The average sample size of the groups exceeded 3,000 employees and looked at programmes over a three-year time span.

Savings were reported across all programmes where they were reported, through reduced healthcare costs per employee per year. The average calculated ROI across the 15 studies was 3.37. Seven studies reported savings, but not costs. In respect of the RCT's and matched comparison groups (nine of the studies) the average programme savings was $395 per employee per year, and average costs $159 per year, making a ROI for this group of 3.36.

In respect of absenteeism, the savings reported were more modest (22 studies), however, all but one of the studies shown some reduction in absence days, with an estimated RO1 of 2.73, saving an average overall of approximately 1.8 days per employee per year. Beicker et al., (2010) assert that while these programmes were considered over a three-year period, it could be anticipated that the health benefits are likely to build up gradually over time, which would not be captured in their review.

Van Dongen et al.'s., (2011) review had a narrower focus than the previous two cost-effectiveness reviews, focusing health promotion programmes aimed at improving nutrition and/or increasing physical activity. Four RCT's, thirteen non-

randomised studies (NRS), and one modelling study was included. The studies were assessed in respect of benefit cost ratio (BCR) and ROI and were split into absenteeism benefits, medical benefits or both. The findings from the RCT's did not show financial savings, whereas the findings from NRS did. Ten of the studies were performed from the employer's perspective, and showed only benefits to the employer. Fourteen studies were carried out in the USA, three in the Netherlands and one in the UK. Interventions generally consisted of a self-assessment, education/information, behavioural, exercise, environmental and/or incentive component, with the lengths of interventions varying between six months to five years. Thirteen studies provided details of absenteeism benefits, 11 medical benefits, and six studies included absenteeism as well as medical benefits. Three provided details of presenteeism benefits.

Average programme costs per participant per annum were $11 to $1,075 (median $155). Average annual absenteeism and medical benefits per participant ranged from -$113 to $1,384 (median: £324), and -$82 to $554 (median $187) respectively. Where reported average annual presenteeism benefits ranged for $2 to $1,528 (median $158). The BCR ratio ranged from -0.75 to 18.84, indicating the amount of return per dollar invested. The ROI ranged from -185% to 1,784%. The financial return was positive in 14 out of the 21 interventions however, while average benefit-standardised ROI's and BCRs were positive in NRCs, they were negative in RCTs. Van Dongen et al., (2011) state that 'this indicates that workplace health promotion programmes aimed at improving nutrition and/or increasing physical activity generate financial savings during the first years after implementation according to NRS's, whereas they do not pay for themselves in terms of absenteeism benefits, medical benefits or both according to RCTs.' This is in line with previous findings, which indicate that NRSs of healthcare interventions tend to result in larger estimates of effect when compared to RCTs, which could support 'selection bias' hypothesis.

Van Dongen et al., (2011) draw our attention to the high risk of bias associated with the studies they included, and urge future studies to improve the methodological quality of ROI analysis in workplace health promotion programme research. They urge the findings derived from the NRSs to be interpreted with caution, drawing attention to the fact that the RCTs do not pay for themselves in terms of reduced absenteeism costs, medical costs or both during the first five years after implementation. Due to the nature of the studies, it was difficult to pick out whether there were differences in effectiveness between the nutrition or physical activity interventions.

Van Dongen et al., (2011) also highlighted that there were potential intangible benefits (e.g. improved job satisfaction, or reputation) that were not captured in the studies. They also point out that health benefits may accrue gradually and therefore may not be captured within the study periods – a common theme amongst all the cost-effectiveness reviews in this section. In this respect, it is notable that the RCTs tended to be shorter than the NCRS. The distinction is also highlighted between American and European workplace health promotion programmes which are different, as in the US these costs (largely medical) are borne largely by employers, whereas in Europe they accrue to the government or insurance companies. While, this makes comparability in

respect of ROI difficult, it was adjusted for in this study using benefit-standardised financial returns, which helps mitigate against this.

In 2012, van Dongen et al. conducted a similar review, looking at 'cost-effectiveness' of worksite physical activity and/or nutrition programmes, as opposed to 'financial return' which was the focus of the previous review (van Dongen et al., 2011). The reason for the second review was because while the previous review indicated that workplace health promotion programmes may not pay for themselves in terms of reduced medical and/or absenteeism costs during the first five years after implementation, "*reporting on cost-effectiveness in terms of intermediate outcomes that might be associated with long-term cost savings (e.g. body weight loss), may also give useful information to aid implementation decisions*". In addition, they assert that profit may not be the only motivator for an employer, in which case, it is important to determine cost effective ways of obtaining positive health effects, or as they state, "*least costly per unit of effect.*" (p.394).

The studies included in the review were: worksite nutrition programmes (n=7), and worksite nutrition and physical activity programmes (n=11). As in the review before, generally interventions consisted of (self-) assessment, educational/informational, behavioural, exercise, environmental and/or incentive component. Lengths of interventions ranged from 12 weeks to three years. Cost-effective evaluations were conducted in respect of a range of outcome measures including dietary habits, quality of life, physical activity-related measures, and work-related outcome measures).

The worksite nutrition programmes (n=4 studies, with seven interventions) generally were reported to be more costly and more effective than 'usual care' interventions, except for the intervention aimed at reducing restraint dis-inhibition (i.e. overeating in response to stress or other cues) and hunger – which was found to be more costly and less effective. Three studies aimed at reducing cholesterol, of these the least intensive one (cholesterol screening and health education materials) was found to be least effective, the other interventions were more costly and more effective than usual care (cholesterol screening + health education materials + one month educational programme, the same + incentives, cholesterol screening + health education + three months education programme, the same + incentives).

Looking at worksite and physical activity programmes (n=6) all of the interventions were found to be more costly and more effective than usual care. The most effective in terms of weight loss involved face to face nutrition/PA programmes, in person treatment orientation meeting, and 24 week behavioural internet therapy, manual for weight control, telephone counselling twice. Two other studies looked at CVD risk reduction, although they were difficult to compare. All interventions were more costly and more expensive than usual care, except for the fitness centre intervention, which was more costly and less effective.

A cost utility analysis looking at both an internet and a phone-based nutrition and physical activity programme found the internet based, as opposed to phone-based intervention to be more cost effective.

"From various perspectives, worksite nutrition as well as worksite physical activity and nutrition programs (n=6) were more costly and more effective in reducing body weight compared to usual care during the first years after implementation. If only intervention costs were considered, most worksite nutrition (n=4/5) and worksite physical activity and nutrition programs (n=5/6) were more costly and more effective in reducing cholesterol level and CVD risks respectively." (pg. 403). What is unknown at the moment is the levels for how much different stakeholders are willing to pay – and whether the costs of these programmes are acceptable.

Due to methodological difficulties, van Dongen et al.'s., (2012) review concluded that the review could not indicate how programmes should be optimally designed, or which formats are important for attaining cost-effectiveness. As in the previous reviews, publication bias possibly affected the findings, and all cost effective analysis conducted from the employer's perspective were carried out in the Netherlands and may not be generalisable, particularly the US evidence.

Regarding economic evidence from multi-component workplace health and wellbeing interventions:

3.9.2 Healthcare costs

The review by Oscilla et al., (2012) (which included observational studies and studies with non-randomly assigned control groups) reported that eight studies included healthcare costs, and all but one study found significant decreases in healthcare costs following implementation of wellness programmes. Different types of healthcare cost effects were reported such as direct reductions in medical costs (between ($176-$1539/participant/annum). Other studies reported broader financial aspects such as disability cost savings ($613/participant/annum) and $180/participant/annum when including healthcare costs and reduced absenteeism. Of the eight studies, five completed return on investment analyses (ROI) and reported returns between $1.65-$6.00 for every dollar invested. Soler et al., (2008) compared the use of an assessment of health risk at baseline as an effective motivator for behavioural change and found a significant reduction in both healthcare service use and worker absenteeism, resulting in economic benefits of between $93-$695/participant/annum. Soler et al., (2008) also reported ROI costs of between $1.40-$4.60 returned for every dollar invested.

3.9.3 Absenteeism

Four studies in Oscilla et al.'s (2012) review evaluated absenteeism costs (estimated cost of missed work days) and found significant effects: these were a ROI of $15.60/dollar spent; $1350 savings/employee on short-term disability costs; 0.1% point risk reduction in days off ill, and $180 savings/participant/annum when including healthcare costs. The review by Hill et al., (2007) reported evidence that the most important contributory factors associated with sickness absenteeism were work demand (work hours, load and pressure); lack of control over work and poor support from managers. However, Hill et al.'s review highlighted that both workplace physical activity and fitness programmes could reduce absenteeism as well as reducing waiting

times to access occupational health services (i.e. early intervention). A further meta-analysis by Parks and Steelman (2008) of wellness programmes showed that participation in either fitness only or comprehensive wellness programmes (those that included prevention and educational elements) was associated with decreased absenteeism and also increased job satisfaction, supporting an assumption that employees who take part in such programmes are healthier and therefore take less days off sick. Wellness programmes are perceived to improve employees' perceptions of the organisation as showing corporate social responsibility towards its employees, thus influencing retention, recruitment and other aspects of business.

3.9.4 Musculoskeletal interventions

The review by Tveito et al., (2004) included 28 studies (31 papers). Only exercise showed significant effects on low back pain, business outcomes (sick leave) and cost-benefits. There was limited evidence for significant positive effects from exercise on sick leave, costs and new episodes of low back pain, but no evidence of effect of exercise on level of pain.

Palmer et al., (2012) reported on the effectiveness of workplace-based interventions to manage musculoskeletal-related sickness absence and job loss and included 42 studies in their review (34 RCTs) – of these 30 studies included prescribed exercises, 37 promoted behavioural change, 17 were in the workplace (ergonomic assessment for example) and 10 provided additional services (interventions were often applied in combination which makes component analysis of intervention effectiveness difficult). Twenty-one studies provided data on sickness absence. The mean reduction in sickness absence in intervention vs. control group was 1.11 days/month. Few differences were found by anatomical site but consistently across all categories of outcome. Benefits of intervention were greater in those workers who had less than 12 weeks of sickness absence at baseline when compared with workers who had had more sick leave. Interestingly those that involved brief interventions, less than 12 hours in total were more effective than those that took longer. Cost effectiveness analysis was conducted on eight studies however no study proved or disproved a return on investment.

Overall the quality of evidence in this review was low-moderate and very tentative recommendations for practice include: referral to a physiotherapist, rehabilitation specialist, occupational physician or GP; appointing a case manager, employing intensive multidisciplinary treatment over several weeks, small group CBT or back school programmes providing education on stress and coping. It may be judicial for employers to invest in brief rather than expensive longer-term interventions.

The final review by Carroll et al., (2010) assessed the effectiveness and cost effectiveness of workplace interventions in facilitating employees with back pain in returning to work. 9 studies (8 RCTs) were included) and were of good or moderate quality. Interventions involving the employee, health practitioner and employer working together in implementing workplace modifications showed significant improvement in return to work rates; and three studies also showed intervention groups required significantly shorter time to return to work. Two moderate quality economic evaluations (RCTs) were included and these

indicated that those with a workplace component were more effective than those without. Of these, one study reported cost per return to work-day gained was £17 and the other reported cost per day on full benefits saved was £46 and the cost-benefit ratio was 1/7.7. The conclusions of this study were that stakeholder participation and work modification were more effective and cost effective at helping employees with musculoskeletal conditions on sick leave return to work when compared with less collaborative workplaces offering exercise or usual care.

3.9.5 Summary of findings and implications

- Companies should be encouraged to invest in employee health on the basis of economic arguments, alongside their desire to improve their employees' health for more altruistic reasons;
- Overall it appears that a good economic case can be made for investment in workplace health programmes (the majority of interventions appear cost effective, especially in the longer term;
- Good economic evidence of effectiveness exists for multi-component health and wellbeing interventions;
- Strong evidence comes from the meta-analysis which showed the average return on investment was over three to one;
- The majority of studies into absenteeism showed some reduction in absence days, with an estimated ROI of 2.73, saving an average overall of approximately 1.8 days per employee per year;
- Some of the stronger study designs did not show economic benefits but this may be connected to the short timescales over which benefits (and costs) were calculated and so studies which measure longer-term outcomes (three to five years at least) are required.

4 Review of studies of effectiveness: the financial and professional services sector

4.1 Method

To supplement the analysis of reviews of effectiveness of workplace health and wellbeing literature, a systematic review of primary studies of workplace health interventions (implemented in the financial and/or professional service sector) was also conducted. The aim was to augment review level evidence with specific evidence of relevance to City-type businesses i.e. large companies in the financial services and professional services sector (if available).

4.1.1 Search strategy

A very broad search was undertaken – see Appendix 2 for details. The following databases were searched:

- AMED (Allied and Complementary Medicine);
- Ovid MEDLINE(R);
- PsycINFO;
- HMIC Health Management Information Consortium;
- Social Policy and Practice;
- EBSCOhost - EconLit with Full Text;Business Source Premier;Regional Business News.

To be included, the review had to satisfy the following criteria:

- Published in English;
- Intervention study of effectiveness of a workplace health programme or intervention;
- Conducted in (or applicable to) workplaces of 250+ employees;
- Study was conducted in a financial, banking or professional services organisation;
- Evaluated by an agency independent of the employer;
- Presented data on a measurable outcome of employee health and wellbeing, quality of life, or health-related behaviour. This could have been objective (e.g. steps walked; measured fitness; blood pressure) or subjective (e.g. self-reported quality of life; stress).

4.1.2 Initial results and screening

The titles and abstracts for each study (563) were screened for relevance. The broad nature of the search meant that there were a very high number of irrelevant studies.

4.1.3 Included studies

Thirteen papers were found to be relevant initially, however following screening by two reviewers, independently, only three papers were deemed to fully meet the inclusion criteria: Jonker (2009), Mutsvunguma & Gwandure (2011), and Van Steenbergen & Ellemers (2009).

4.2 Results

4.2.1 Background

Of these three included studies, the first by Jonkers (2009) assessed the effectiveness of an intervention programme aimed at developing emotional intelligence in accountants; the second by Mutsvunguma & Gwandure (2011) explored the psychological well-being of bank employees who handled cash, particularly in relation to job stress, burnout and life satisfaction; and the final study investigated the work-family interface and effects on health among bank workers in the Netherlands (Van Steenvergen & Ellemers, 2009).

4.2.2 Key findings

Jonkers' study (2009), focused on assessing the effectiveness of an intervention programme aimed at developing emotional intelligence in accountants. Emotional intelligence is a skill that enables people to recognise and manage their emotions in order to improve relationships and decision-making at work. It has also been found to stimulate competitiveness and an environment for change and innovation. This was a small study (n=40), conducted in South Africa, which was of low quality. It provided evidence that a five-day training programme (delivered over 12 days), could result in a short-term positive impact on emotional intelligence. However, there was no longer term follow-up, so it is unclear whether this improvement was sustained. In addition, it is unclear how emotional intelligence impacted on the workplace.

The second paper by Mutsvunguma & Gwandure (2011) explored the psychological wellbeing of bank employees. They found that those employees who were customer facing, and who handled cash were significantly more likely to report high work stress, emotional exhaustion, depersonalisation and overall burnout. Interestingly there was no difference in respect to personal accomplishment and life satisfaction. However, this study was carried out in Johannesburg, where the risks to bank employees from violence are extremely high, customer traffic was very high, and literacy levels were low. In addition, the pace of work was reported to be very high, and unpredictable. In addition the study sample was small (n=50), and the methodological quality of the paper was low. These methodological limitations and contextual factors call into question the transferability of this study to the City of London.

Van Steenvergen & Ellemers (2009) investigated the work-family interface among bank workers in the Netherlands. Two studies were conducted, the first was a large scale cross-sectional study (n=1,134), and the second was a smaller study (n=58) designed to longitudinally examine the relationship between employees' work-to-family and family-to-work facilitation experiences with objective health measures, such as body mass index (BMI), cholesterol level and physical stamina. Looking at the work-family interface, family work conflict would be considered to be personal or family worries that distract you when you are at work, whereas work family conflict would include stress at work, which makes you irritable at home. Family-work facilitation would be where your home life helps you to relax and feel ready for work, whereas work-family facilitation is the positive impact that having a better day at work has at home. The study highlights that "There is quite substantial evidence in the work-family

literature showing that employees who experience low conflict and high levels of facilitation in role combination feel healthier and self-report lower absenteeism and higher performance at work."(pg. 636).

The main significant results of Study one were that work-family conflict related to a greater incidence of increased cholesterol levels and overweightness. Family-work conflict was not related to the health indicators measured. Those employees who experienced higher work-family facilitation were less like to have increased cholesterol levels and less likely to have poor physical stamina, and family-work facilitation was related to a lower likelihood of being overweight.

The main significant findings of Study two, which was longitudinal, were that facilitation as measured at baseline, reliably predicted better physical health (cholesterol & BMI) and lower absenteeism and increased job performance one year later.

The present research provides further support for the claim that employees who experience low conflict and high facilitation between their work and family roles are objectively healthier, absent less, and better performing employees.

4.2.3 Summary of findings and implications

- There is almost no primary research evidence relevant specifically to the financial and professional services sector. From the above studies there are few generalisations that can be made, as the studies are so diverse.
- In terms of the financial and professional services sector the final study offered the most in terms of guidance for best practice in workplaces, particularly in terms of gender equality. It highlights that policy and practice that supports positive work-family interface are likely to serve the interests of individual employees, together with the organisations in which they work.

5 Review of 'grey' literature

5.1 Background

Grey literature describes a report or document that is published, but has not been through the peer-review process and is not published in an academic journal. This type of literature was used to supplement the previous reviews of scientific literature on the effectiveness of workplace health and wellbeing interventions. The risk is that grey literature can be subjective, and so has to be treated with caution. The specific concern in this research was that case studies of health and wellbeing interventions in the workplace might be described very positively by the company concerned but with no external objective validation of effectiveness.

5.2 Method

This section is based on material collected meeting the following criteria:

- Reports/publications that were not published in scientific journals or books;
- UK origin;
- From large (250+ employee) organisations;
- Workplace health and wellbeing programmes;
- Timeframe: 2003 to 2013.

Desk-based research was used to assess the literature published throughout the UK on the subject of 'workplace health and wellbeing' to gain an insight into evidence regarding best practice.

5.2.1 Search strategy

The information and data reviewed in the report were sourced mainly through the Internet using Google and Google Scholar search engines. Sources included academic institutions, public sector organisations, workplace health partnerships, research companies, workplace health companies, and company websites. These searches were supplemented with direct emails to colleagues and organisations working in this field.

The search involved the use of the main term 'workplace health and wellbeing', which was cross-referenced with the following terms:

- Workplace health promotion;
- Physical activity in the workplace;
- Workplace health improvement;
- Mental wellbeing;
- Stress;
- Nutrition;
- Smoking;
- Alcohol;
- Workplace environment;
- Health and wellbeing policy.

The literature was reviewed for its relevance, such as evidence of evaluation, discussions on policy, prevention and practices applied within the work environment. Full articles were requested where relevant and possible, but not many full papers were identified that were appropriate for this particular project.

5.2.2 Limitations of the grey literature search

The grey literature review highlighted a number of challenges inherent in dealing with this kind of material:

- The search found very few independent evaluations of specific workplace health and wellbeing interventions that were accessible online and had not been published;
- The majority of unpublished grey literature relating to workplace health and wellbeing were evidence reviews rather than specific evaluations of individual workplace interventions. Due to the major component of this commission relating to a systematic review of evidence these were discarded from this grey literature review;
- Much of the available grey literature that was found was published as 'case studies.' In these case studies the evaluation methods are not available to be reviewed;
- Most grey literature that was available was classed as 'best practice' and by the very nature this evidence lacks critique of the intervention;
- Not all case studies discussed specific aspects of the intervention such as delivery.

5.2.3 Selection criteria

The collated material is varied in its content, quality and methods. The following questions were used to identify which items from the grey literature should be included within this review:

- Is the content of the intervention clearly health-related?
- Does the literature describe an intervention that is wholly or partly 'health promoting'?
- Are the outcomes and outputs described in health-related terms?
- Is it possible to describe the health outcome pre and post intervention?

The process resulted in 45 case studies. Following screening a total of 17 studies were included:

- Seven independently evaluated workplace Interventions;
- 10 internally evaluated workplace interventions.

These are described in detail in Appendix 3.

5.3 Key messages from the grey literature

- Overall the results offer some support that participating in multi-component workplace health and wellbeing interventions can improve employee health;
- Those reporting improvements in health focus on multi-component programmes that include: organisational support at a senior level, staff training, local champions, online support;
- The most significant impacts appeared to be towards overall perception of health and wellbeing (including mental wellbeing);
- Competitions are popular and seen as effective;
- The workplace can be a good setting to promote mental health and wellbeing;
- A key role is the 'business champion-health champion' type position - taking on an 'activator' role to foster participation, raise awareness, enable changes to work procedures and strengthen networks – this helps to embed projects within the organisation;
- Health promoting activities and training designed around the workplace environment improved individuals' confidence, skills and capacity. The most effective approaches combine a focus on organisations and individuals, because changes can be reinforced at different levels in the workplace;
- Organisational culture change can be achieved by working with senior management and by empowering employees using participatory approaches, where individuals and organisations own the initiatives.

Many successful initiatives involved working with external agencies, in particular NHS organisations. Reported benefits include:

- Reduced sickness absence (between six to 30%);
- Increased productivity;
- Self-reported improved health and wellbeing;
- Increases in physical activity;
- Weight loss;
- Reduction in staff turnover.

5.3.1 Implications

The case studies have shown that there are a number of real and perceived benefits of workplace health promotion that have been identified by employers. These should be highlighted by employers, to combine meaningful initiatives to improve their employees' health alongside positive improvements to the corporate image.

6 Interviews with City employers

6.1 Method

Ethical approval was sought and obtained from the University of Salford's Research and Ethics Committee prior to this work being undertaken (October 2013). A qualitative method was required to explore best practice with respect of workplace health interventions, with large firms based in the City. In-depth, one-to-one, semi-structured interviews were selected as the best method to achieve the required response rate and data.

6.1.1 Identification of sample

Companies present within the City of London boundary were identified using online databases such as MINT. Approximately 20 interviews were required across the 215 large companies (of 250+ employees) who are currently situated with the City of London boundary, representing a sample of approximately 10% of the total population. It is worth noting that due to this small sample size, and its non-representative nature it is not possible to draw generalisable conclusions from the interview findings. However these 20 firms also represent tens of thousands of employees in the City and therefore the interviews provide a useful indication of what large City firms are doing to promote employee health and wellbeing.

6.1.2 Contact

Contact with City firms identified as suitable for inclusion in the study was made in a variety of ways:

- Through a relevant personal contact who currently worked at one of the organisations and was known to the consultants;
- By contacting the human resource department of companies identified from the MINT database and inviting them to take part or to pass the invitation on to the relevant individual in their organisation;
- Invitations to participate in the research were circulated via relevant networks such as the City HR Association and Heart of The City.

All contacts were sent details of the commissioned research, the aims and objectives of the research and the content of the interview (request for participation letter – see Appendix 4). Furthermore, the ethical issues surrounding confidentiality for themselves and their organisation were explained and data protection and security issues were fully discussed with the individual prior to them agreeing to take part.

Once a participant had agreed to take part a telephone appointment date was made for when the interview would be conducted. The interviews were conducted between December 2013 and January 2014. Prior to the date of the interview, an email reminder was sent (with date and time of interview attached) and an outline of the key areas of questioning that the interview would cover, in order to ensure a robust and in-depth interview.

6.1.3 Interview schedule

The interview was designed to reflect the requirement of the research brief and also emergent findings from the literature reviews. The schedule covered the following key areas (see Appendix 5):

- Current issues affecting health in the workplace;
- Policy environment in the workplace;
- Organisational context;
- Current interventions/approaches being implemented in the workplace (current practice);
- Evidence of success in respect of these interventions;
- Barriers/facilitators to implementation;
- Feedback on issues and ideas raised by the review results.

6.1.4 Conducting the interviews

On the day of the interview the participant was contacted by telephone, by one member of the research team, and permission to tape the conversation was requested. The aims and purpose of the research were reiterated at the start of the interview. The interview was then conducted and each lasted between about 30 minutes and one hour. The ethical rights to withdraw from the study at any time and aspects regarding confidentiality of the data were also reiterated to the participant at the end of the interview.

6.1.5 Analysis

All interviews (except one where the participant did not want to be taped) were transcribed verbatim.

The transcripts were subjected to framework analysis (FA) for coding and analysis by two members of the research team working independently (Coffey and Dugdill). Results were then triangulated by the two members to establish the emergent and a priori themes which are reported below.

FA has, over the last decade become an established and rigorous method of analysing qualitative data (Furber, 2010). It shares many of the common features of much qualitative analysis, however, this particular method provides systematic and visible stages to the analysis process that enable others to be clear about the stages by which the results have been derived from the data (Ritchie and Spencer, 1994). Also, although the general approach in FA is inductive, i.e. the theory emerges from the data, this form of analysis allows for the inclusion of a priori as well as emergent concepts (Lacey and Luff, 2009).

6.2 Results

The interviews revealed the following key themes which emerged during the analysis:

6.2.1 The culture of working in the 'City'

There was real enthusiasm from the interviewees to take part in the research. A large number of organisations identified that the health and wellbeing agenda was crucial to their business, particularly in terms of retaining their competitive

edge, employee retention, attracting top talent and winning external tenders. The need to be proactive came through strongly, in particular interviewees understood the need to maximise the health and wellbeing of their workforce, rather than just act when people go off sick.

All interviewees mentioned that there is a competitive, target-driven culture in the City which lends itself to long working hours. They also flagged that the recession has had an additive effect on work pressure, with some interviewees reporting leaner workforces and less spare capacity.

> *"Our staff work in a very competitive environment involving long hours. Due to the competitive nature of the business the pressure is very high – much of this though comes from the individual though who is very ambitious and looking to progress their career, it's become a 'cultural thing'. With the pressure though comes significant reward for the individual."* (Health & Wellbeing Officer - Legal Firm).

> *"It's still a very difficult economic climate … you see people left behind having to pick up the work because that doesn't go away... I guess that's just a result of the tough economic times."* (Global Head Corporate Responsibility – Financial Services).

There is a distinction between companies who work at a national and international/global level, particularly in respect of working across time zones, and the transferability of the approaches, philosophy and policy environment between countries.

> *"We are an American firm so we do have restrictions and an issue of cultural understanding with our US counterparts…"* (Rewards Manager - Legal Firm).

6.2.2 Key health issues pertinent to the City

The key health issues reported in the interviews mirrored national trends, and were mental health issues, musculoskeletal conditions, and minor illnesses (including coughs, colds etc). Although overall, sickness absence was reported to be either lower than national trends or not a particular problem for the organisations we interviewed.

6.2.2.1 Access to healthcare

Access to healthcare, particularly GPs, has previously been reported as a potential problem for employees who are required to travel some distance to work[1]. However, this is mitigated in many of the companies interviewed, by either providing in-house GP services, or access to private health care centres. As part of the benefit packages most organisations that were interviewed offer the opportunity to employees (sometimes without cost, sometimes subsidised) to access a range of healthcare services such as dental; optical, private medical insurance; flu jabs; physiotherapy services; smoking cessation clinics; and health/medical checks.

---

[1] PHAST (2012) The Public Health and Primary Healthcare Needs of City Workers, City of London Corporation and NHS North East London and the City.

In addition, some companies offered 'fast-track' opportunities into certain healthcare services, such as physiotherapy.

> *"…we've got 1,600 employees, but we've got 1,200 men and the situation with most blokes is that they tend to ignore minor niggles or aches or pains, so we introduced a fast-track musculoskeletal rehab … it's reduced the amount of MRI scans and surgeries…so we've been able to capture these things a little bit earlier than we would have done normally by making it easier for people to access services"* (Head of Compensation & Benefits – Financial Services).

6.2.2.2 Gender

The City was described by some interviewees as having a 'male dominated' culture, particularly in respect of its competitiveness, and target-driven approach. This is reflected by 2011 Census data that shows that City workers are largely between 20 and 50 years of age, with the greatest proportion of women aged between the mid-20s to mid-30s, while men are aged between the mid-20s to mid-40s. There are over half as many male (220,265) than female (139,813) daytime City workers[2]. The younger age and male dominant profile of City workers is likely influenced by the male-dominant finance and insurance industries representing 40% of the workforce (this proportion equates to 67% when including financial, insurance and professional services)[3].

Some interviewees reported that the perceived male-dominated culture influences early intervention/medical treatment in their organisation, with staff 'shrugging off' symptoms of ill-health, in particular mental health issues. In addition, it influences the way initiatives are viewed with respect to personal or organisational responsibility.

> *"We don't have an on-site restaurant here…this is very much a personal view, I find it slightly big-brotherish when we start doing things like that, what they should eat and when they should give up smoking"* (Head of Compensation & Benefits – Financial Services).

---

[2] City employment by gender figures are from the Office for National Statistics 2013, The Workday Population of England and Wales: An Alternative 2011 Census Output Base. These figures differ slightly to those quoted above from the Business Register and Employment Survey (BRES) given in section 1.5, due to last available data being from 2011, differences in methodology (Workday Population figures are based on census data while BRES is based on sample data), and differences in the definition of 'employment' (the workday population of an area is defined as "all usual residents aged 16 and above who are in employment", while BRES employment includes employees and working owners, including sole traders and sole proprietors).
[3] Office for National Statistics, (2013) Business Register and Employment Survey, September 2013.

6.2.3 What is being done in respect of health & wellbeing in organisations

In addition to the 'healthcare' and benefits packages mentioned above, all of the interviewees reported complying with health and safety requirements, for example: workstation ergonomic assessments and adjustments; and eye checks for visual display unit (VDU) users.

All companies offered Occupational Health support, and confidential Employee Assistance Programmes, which varied in their levels of comprehensiveness.

> *"It provides both counselling and advice around cases, like legal issues, caring issues, and relationship issues."* (Wellbeing Advisor – Telecommunications).

> *"…they look after things like childcare, they can just contact the EAP and they will search the local area for local childminders and they help with supporting elderly relatives in terms of finding care."* (HR Projects & Policy Officer – Legal Firm).

There were also a wide range of other health promoting opportunities, for example: cycle to work schemes; subsidised or free gym membership; yoga; massage therapy; in-house sports clubs; social clubs; and volunteering;

In addition health education opportunities were offered most commonly in respect of: nutrition; physical activity (particularly posters regarding using the stairs); and stress management. Health education opportunities were also offered, although less commonly in respect of: cancer awareness; sleep hygiene; resilience, self-esteem, weight control, and alcohol use.

Management training, particularly around recognising and managing mental health issues was offered in some, although no all organisations consistently. In addition, one organisation reported in-house directors and partners being trained to act as mental health champions.

> *"…we don't do training around awareness of mental health, but maybe we should do…"* (Group HR Advisor - Insurance).

> *"We had someone talking about resilience to our partner group and that was incredibly popular. I think there is now a sort of acceptance to talk about it openly, I think there is more willingness to accept that you are not a failure and that you can have a period of physical or mental ill health and recover and still do a good job for the firm."* (Senior Manager - Employer Relations - Professional Services)

> *"There are a network of directors and partners who individuals can call upon completely confidentially if they want to talk to someone about a mental health issue and so that network will work with that person to understand the issues and give them some support."* (HR Manager - Legal Firm)

Evidence clearly supports the involvement of staff in the identification and design of workplace programmes, though the interviews showed a variable

level of staff engagement/involvement in a participatory way in setting the health and wellbeing agenda.

> *"..if you ask people what they want they are always going to want something that perhaps we can't offer, you might not be able to deliver on it…"* (Group HR Advisor - Insurance).

Notwithstanding this, there were good examples where staff, were involved in an ongoing way, or staff demand was informing provision.

> *"…which will help people identify mental health conditions, sort of provide them with support on what they should do…we've got queues of partners queuing up wanting their whole teams to attend, which is great."* (Senior Manager - Employer Relations - Professional Services)

> *"We have staff fora which act as a mechanism to get feedback from our people but also to inform and communicate about various programmes we might be running."* (Benefits Manager - Legal Firm)

6.2.3.1 Flexible working/flexitime

The majority of firms offer a range of types of flexible working, which allow people to work from home, or work remotely.

> *"I am phoning from home today, our boys are in nursery so it works for me. They were picked up for nursery this morning at 7 o'clock. I logged on at 7.10 and then when they are dropped off at 6, you know, I'll finish at 5.30 tonight. Quite a long day, but the fact is I chose to do that because I've got the option".* (Environment, Health & Safety Manager – Legal Firm).

While flexible working is common, 'flexitime approaches', such as building up time in lieu, or starting work late or finish work early, were not mentioned. While one organisation mentioned that flexitime might be something that staff wants, it was not generally considered possible to implement within the organisation, due to the nature of work demands.

6.2.3.2 Integration of health & wellbeing in the company

All the organisations interviewed also provide more traditional medical healthcare benefits including Occupational Health (OH) and Employee Assistance Programmes (EAPs). For these companies, the role of Health and Wellbeing lead is an adjunct to their main jobs. As one company identified, this more traditional provision has remained a priority even with the challenge posed by the recent economic recession:

> *"…times are hard and we're making redundancies… …we do have somebody who is working on safety…slips, trips and spills…more your traditional health and safety type approach"* (Global Head Corporate Responsibility – Financial Services).

However in addition to this traditional focus, a number of organisations also have very well integrated systems, with designated Health & Wellbeing leads, and some have supporting teams and regional networks across the company.

These organisations are more likely to take a more proactive 'joined up' approach to health and wellbeing.

> *"There are three of us who are specifically focused on health and wellbeing…we also work closely with our colleagues in our Rewards Team. We have sort of centralised everything to do with health and wellbeing under one team…to try and ensure we're being more coordinated and joined up"* (Senior Manager - Employee Relations - Professional Services).

> *"We're trying to move towards being more proactive in our approach towards wellbeing, because although absence isn't a big issue for us…we want to do as much as we can to improve the proactive side of things, investing in preventative approaches such as up-skilling our line managers and appraisers to understand when an individual is perhaps feeling under pressure, and putting measures in place at that point to prevent it becoming a bigger issue"* (HR Manager - Legal Firm).

One of the challenges faced in delivering health and wellbeing initiatives is joining up the diverse range of people who have responsibility for some aspect of staff health across the organisation. For example, healthy food in the canteen may be the responsibility of the facilities team, private healthcare insurance may be the responsibility of the rewards/benefits team, and sickness absence management will be the responsibility of the HR team.

Challenges were also identified in respect of communicating health and wellbeing messages to staff and managers. To overcome this, most of the organisations interviewed post information on their intranet, and display posters etc., throughout the organisation.

> *"…and everything's advertised on the firm's intranet. We'll be running health and wellbeing workshops so that people know what's available to them, we're constantly advertising it. We have a weekly magazine as well with a page on health and wellbeing where there will be links to all the relevant pages where they can find information."* (HR Projects & Policy Officer – Legal Firm).

Some organisations identified that they wanted to be more proactive in this respect, by actively ensuring that information reaches employees – for example by running workshops or dissemination via staff teams – rather than relying on employees to ask for information.

6.2.3.3 Partnerships with external organisations

In terms of harnessing local resources/expertise to enhance health and wellbeing provision, some organisations are exemplars in this respect, drawing upon an extremely wide range of public sector and charitable organisations for support. These include Mind, Alcohol Concern, British Heart Foundation, NHS health check providers, NHS stop smoking services, and cancer charities, among others. The City of London Corporation is also identified by some organisations as playing a key role in facilitating these links.

> *"We have engaged over the last few months with the Department of Health and we're signing up to some public health responsibility pledges with*

Dame Carol Black next month… we see it as a differentiator in terms of helping with employee engagement as well." (Senior Manager - Employer Relations - Professional Services).

"…Alcohol is a tricky one and we've done some kind of lower key communications around that and certainly in our last set of road shows we had people from Alcohol Concern being available for advice." (Wellbeing Advisor – Telecommunications)

The City of London Corporation was identified by some organisations as playing a key role in facilitating these links in some cases.

6.2.4 Monitoring health and wellbeing in organisations

6.2.4.1 Sickness absence

All 20 organisations interviewed routinely monitor sickness absence, although there are differences in the way that data is collected and used. Though most organisations do not explicitly link their sickness absence data to health and wellbeing indicators, some employ a sophisticated approach to interpreting and using their data, including some examples of data being used to tailor interventions to meet employee needs. One organisation adopted a particularly innovative approach to monitoring potential stress levels, looking at the hours that people have worked, and the overtime they had submitted.

"…we are a very metrics-driven organisation so we monitor a lot of wellbeing matters across the company …we look at sickness absence overall, but we also break it down into the main causes and mental health is one of them. So every month we have a 'mental health dashboard' … and we also look at data from our employee assistance provider around mental health and we also look at data from our own internal online risk assessment tool." (Wellbeing Advisor – Telecommunications).

"…we have now got 12 months' worth of robust absence data which we will begin to look at in more depth in order to understand reasons for absence, and then we will tailor some initiatives around that." (Rewards Manager - Legal Firm).

The organisations interviewed were at different stages in dealing with the key causes of sickness absence. For example, most organisations have comprehensive ergonomic workstation assessment and adjustment provision in place, which is also augmented with physiotherapy provision. However, in respect to mental health-related issues, organisations exhibited variable levels of current provision, although they all recognised the importance of the issue.

6.2.4.2 Measuring uptake of health and wellbeing provision

Uptake of certain types of health and wellbeing provision, such as occupational health use and uptake of rewards packages (e.g. gym membership, private medical insurance, eye tests etc.) were monitored fairly consistently. However, the less formalised training and health education opportunities were monitored less closely, and in most cases uptake was less well known, and was largely anecdotal.

6.2.4.3 Effectiveness

Evaluating the effectiveness of interventions in the workplace is traditionally very difficult, and this was mirrored in the general lack of metrics used to support the effectiveness of initiatives in the organisations interviewed. Firms do apply some measures where data is available, for example where there was evidence of a reduction in insurance premiums or staff were found to return to work faster than otherwise if health support was provided. All the firms did acknowledge the need to demonstrate effectiveness of provision, particularly given the economic climate, and the requirement to put forward a robust business case for further investment in health and wellbeing.

> *"…there's no kind of hard facts around what is the most effective part of the health programme…"* (Group HR Advisor – Insurance).

Those companies interviewed who are currently making business cases for health and wellbeing investment largely use qualitative descriptors to rationalise the investment. For example, identifying links between investment and improvements in company reputation, or justifying investment as part of the firm's corporate social responsibility. It is notable that 'cost effectiveness' per se was not reported in the interview findings, in terms of monetary spend versus savings.

> *"We've done a lot of work sort of establishing the business case for the work around this area so we've written quite a lot of papers and done a lot of calls and presented to the Operating Committee and to the HR Leadership Team around different aspects of health and wellbeing and mental health in particular, and we've evidenced sort of a business case around taking action in this area, both from a company perspective but also from a business reputation and business leader point of view, so it's seen as kind of key to us being a purposeful company, a sustainable, responsible business and also the links between wellbeing and engagement, performance and business success.* (Wellbeing Advisor - Telecommunications).

There are some examples where health and wellbeing intervention has led to a significant benefit to the organisation.

> *"We had a situation a few years ago where we only had one insurer that would insure us because our long-term sickness claims were so bad, whereas when we introduced the musculoskeletal and the occupational health system as well, for over two years we had no claims at all and we had insurers pretty well fighting over us in terms of getting our business. Our premium went down from over one million pounds per year to under half a million."* (Head of Compensation & Benefits – Financial Services).

Uptake of certain types of health and wellbeing provision, such as occupational health use and uptake of rewards packages (e.g. gym membership; private medical insurance; eye tests etc.) is monitored fairly consistently. Less formalised training and health education opportunities are monitored less closely, and in most cases uptake is less well known, and evidence of uptake and effectiveness is largely anecdotal.

6.2.5 Business case – the key drivers for improving health and wellbeing in the City

The majority of interviewees articulated a sophisticated understanding of the key aspects which link health and wellbeing to the business agenda, for example the links between staff engagement and productivity, corporate social responsibility and enhancing global brand profiles, the link between the culture/nature of the organisation, and employee retention and recruitment.

> *"…we've evidenced a business case from both a business reputation and leader point of view … it's seen as kind of key to us being a purposeful company, a sustainable responsible business, and also the links between wellbeing and engagement, performance and business success."* (Wellbeing Advisor – Telecommunications).

> *"It's part of my job to make sure that our people are the healthiest and the wellest they can be in order to perform at the top of their game really."* (Head of Compensation & Benefits – Financial Services).

However, most interviewees highlighted that putting together the business case is difficult, particularly in light of the challenges associated with measuring effectiveness.

> *"I think one of the challenges is certainly around positioning wellbeing as a business benefit… getting the leadership to see that actually it is a priority and it's not just about nutrition and fitness…it's about having a happy and fulfilled workforce…you know, the direct business benefit of someone being more engaged and feeling better in themselves."* (HR Manager - Legal Firm).

6.2.6 Barriers to promoting health & wellbeing

6.2.6.1 Structural/physical barriers

A number of barriers were cited in respect of the lack of available physical space within the City. In some organisations, this impacted on the ability to provide cycle storage, showers, canteens etc. Newer office buildings were more likely to have appropriate provision in this area.

6.2.6.1.1 Resourcing

Budgets for health and wellbeing were generally cited as adequate, although the interviewees were conscious of the need to provide value for money.

> *"…so, I've always got to justify things that I'm spending money, not just because I think it's a good idea, it's like where is the cost-benefit here, or where is the potential upside if we spend this, can it reduce costs somewhere else…"* (Head of Compensation & Benefits – Financial Services).

Whilst budgets for the rewards/benefits packages were more clearly delineated…with the less formal initiatives, for example, stress management, or resilience training, there were limited ring-fenced budgets, or these were spread across a range of different departments within an organisation (discussed above).

6.2.6.2 Buy in from top management?

Buy-in generally was deemed to be good, and was seen as essential to drive the health and wellbeing agenda forward, although it was potentially challenging. The best examples came from those organisations which had the most integrated health and wellbeing strategies, which tended to be valued highly and their importance recognised at the very senior levels.

> *"The health and wellbeing policy that we have on our intranet is fully supported by the very senior management of our company…it's definitely something that is embedded as part of our culture."* (Senior HR Business Manager – Financial Services).

Less 'joined up' programmes seemed to reflect less involvement by very senior management, or a health and wellbeing being a lower priority, giving competing business interests.

> *"…it will be a challenge in the sense that they* [management] *will cynically see it* [i.e. time to attend health and wellbeing events/provision] *as time away from someone's desk…it's kind of making them see it a different way, that for one hour away from their desk it will mean in the long run 35/40 hours more work…"* (Rewards Manager - Legal Firm)

7 Conclusions

Investing in staff health and wellbeing is clearly an important issue for employers. Companies want to reduce expensive sickness absence; increase productivity; and improve general wellbeing among employees. Among the 20 City firms interviewed there was a real enthusiasm to improve workplace health and a strong recognition of its business importance among employers. There was also recognition that the City as a whole can work together on this issue to help give London a global advantage over other cities.

There is a strong evidence base for investing in workplace health and wellbeing. There are established models of practice that emphasise the importance of systematic, coordinated and comprehensive approaches based on employee involvement, rather than one-off initiatives. This is strengthened by an impressive body of evidence for the effectiveness of workplace health promotion programmes identified here: 68 systematic reviews covering hundreds of individual studies. This therefore represents an advanced field of public health research, and clearly reflects the importance attached to the topic.

There are a number of common threads across the main workplace health topics found in the literature: health promotion/wellness programmes; mental health promotion; and prevention/treatment of musculoskeletal disorders, particularly back pain. In all three areas, programmes designed with the active participation of staff are found to be most effective. Programmes also benefit from being multi-factorial and attempting simultaneously to address individual, environmental, policy, and cultural factors. The evidence overwhelmingly points towards tackling the root causes of ill-health in the workplace, rather than a reactive, 'sticking plaster' approach, where workers are treated once they've taken sickness absence.

Among the sample of City firms interviewed, there are many examples of good practice. Health and wellbeing provision for City workers is excellent in respect of health care provision; health and safety requirements such as ergonomic assessment; and confidential individual support services. There are also good examples of lifestyle programmes regarding physical activity; nutrition and access to healthy food; although these are slightly less well developed. The topic of mental health provision and comprehensive organisational approaches is the least advanced in most cases, though still considered an important area of focus.

There are some exemplar companies who have embedded 'integrated' health and wellbeing programmes across their organisations (with designated teams driving the agenda), demonstrating a wider range of multi-component packages, and with buy-in from senior management. There are also excellent examples of work with external agencies to support a comprehensive set of health promotion activities in a less resource intensive way, with the City of London Corporation acting as a 'sign-poster' in some cases.

Companies are already implementing interventions that can fast-track people back into work if they have a health problem or before they go off sick (i.e. secondary prevention). Discussing and dealing with mental ill health was sometimes considered challenging, and it was felt that there may be a role for

external organisations, such as the City of London Corporation, to play a role and work in partnership across the City to help encourage openness and discussion in this area.

Many of those interviewed flagged that they want to move their health and wellbeing strategy forward, for it to be more proactive and in future helped to prevent more workers from having to take sickness absence.

In terms of the lessons learned from the research, an area to focus on developing is monitoring and assessment of health and wellbeing and business (i.e. sickness absence) metrics, which could be improved and better linked to the interventions offered. Also, companies looking at introducing interventions should assess employees' needs before putting interventions in place. Most companies interviewed recognise this and want to develop better metrics and make a stronger business case to their Board in order to develop their strategy for the future.

From the interviews, there is clear potential for HR managers and health and wellbeing leads within firms to work together to share good practice.

7.1 Areas for future development

The interviewees identified a range of ways in which they could potentially collaborate and where an organisation such as the City of London Corporation could play a role in supporting the future health and wellbeing agenda. These include for example: signposting organisations to a wide range of support services; raising the profile of health and wellbeing; particularly the acceptability of mental health issues with senior level staff; potentially providing/facilitating shared facilities across organisations (e.g. bike storage facilities); sharing best practice across the City; having a City-wide voice sending out consistent key messages to organisations and staff

> *"If my employees are not just hearing the message from me; they are also potentially hearing it from their friends who are working at the company two doors down…it's a bit more joined up really."* (Head of Compensation & Benefits – Financial Services).

> *"We don't do kind of blanket training around awareness of mental health but, you know, maybe we should do, maybe that's something the City of London could help with in terms of helping running some of those programmes that you could send managers on?"* (HR Advisor – Insurance).

> *"We don't talk to any other HR departments… it's a very competitive environment, we all have the same issues in terms of health and wellbeing, it's not as though you're releasing anything confidential. So from that perspective it's good to have things like forums or informal meetings with our counterparts."* (Head of Compensation & Benefits – Financial Services).

8 Recommendations

Based on the research findings, the following practical recommendations have been put forward. These are made on two main levels: across the City of London, and at an employer level.

8.1 Coordination across the City of London

- There is scope for the formation of a strategic partnership group to develop a workplace health and wellbeing strategy for the financial and professional service sector in the City. To maximise the effectiveness of this group it would need to be visible and ideally, chaired by a senior figure.
- An effective workplace health and wellbeing strategy would be developed in partnership by City firms to identify areas for consideration. This might include: encouraging organisational buy-in; harnessing joint resources, for example bike storage facilities; sharing best practice across organisations; building capacity around key health issues, particularly mental health and organisational level interventions; sharing evidence of effectiveness; capitalising on external partnerships with external organisations to facilitate a City-wide health and wellbeing resource network; and fostering a City-wide approach of excellence to the health of the workforce.

8.2 Employers

The following areas and activities have been identified as best practice factors for financial services and professional services firms, based on the review of literature and interviews with a sample of large City firms in these sectors. The suggested areas for action are based around the structure of the Centre for Disease Control workplace health model (see Introduction in the short report):

8.2.1 Assessment

- Undertake comprehensive assessments of organisational and individual determinants of health within organisations. This can be done through staff surveys; consultation; and establishing health and wellbeing steering groups. These should use established approaches where possible (such as the HSE stress management standards).

8.2.2 Planning

- Establish a steering group, comprising employees at all levels of the organisation, and led by senior management, to help drive the health and wellbeing agenda forward.
- Design health and wellbeing interventions with the active involvement of staff, based on known evidence of effectiveness and identified staff needs. These should revolve around the expressed needs of staff, rather than solely being designed by Human Resources or equivalent teams.

8.2.3 Implementation

- Place the greatest emphasis on making changes to the work environment and work practices to reduce negative influences on health and wellbeing

at their source. This means trying to prevent problems from occurring in the first place rather than waiting for issues to arise before reacting.

- Establish organisational-level programmes to raise awareness about mental health issues, facilitate an open dialogue, and enable early recognition of stress in all staff. This should emphasise the quality of relationships (particularly between managers and workers) and optimising work demands, control and support.
- Consider individual level interventions that have been shown to be effective, such as face-to-face stress management training; cognitive behavioural therapy (delivered either online or face-to-face); and physical activity programmes.
- Continue to emphasise good practice around delivery of comprehensive programmes of musculoskeletal interventions including physical activity; regular screen breaks; massage; alternative keyboards, chairs, desk design (including standing desks); and appropriate screens.
- Initiate and maintain a programme of on-going ergonomic assessment for all staff that encourages staff to maintain good posture and also be encouraged to move regularly.
- Further develop good practice and improving access to fast-track physiotherapy services.
- Ensure that processes are in place to deal compassionately and effectively with employees who have diagnosed mental health problems. This can be an important area of activity for employers where mental health problems may go undiagnosed.
- Maintain and develop good practice in the provision of healthy food choices, physical activity provision; smoking cessation and alcohol programmes.
- Encourage the development of social support networks. These can be marketed as social or fun events for staff.

8.2.4 Evaluation

- Evaluate all health and wellbeing programmes against the key aims and objectives of these programmes.
- Develop systems to collect relevant metrics in order to measure the impact of health and wellbeing programmes on both health and business indicators. It is essential to establish the business case for investment in health promotion activities.

9 References

Aas RW., Tuntland H., Holte KA., Røe C., Lund T., Marklund S., & Moller A. (2011) "Workplace interventions for neck pain in workers (Review)", The Cochrane Collaboration.

Acosta S., & Heolscher D. (2010) "Systematic review of worksite-based behaviour change programmes that target metabolic syndrome risk factors", Journal of the American Dietetic Association, Vol. 110(9).

Anderson L.M., Quinn T.A., Gianz K., Ramirez G., Kahwati L.C., Johnson D.B., & Buchanan L.R. (2009) "The effectiveness of worksite nutrition and physical activity interventions for controlling employee overweight and obesity: a systematic review", American Journal of Preventive Medicine, Vol. 37(4), pp.340-357.

Baicker, K., Cutler, D., & Song, K. (2010) "Workplace wellness programmes can generate savings", Health Affairs, 29(2), pp. 304-311.

Bambra C., Egan M., Sian T., Gibson M., Petticrew M. & Whitehead M. (2007) "The psychosocial and health effects of workplace reorganisation: a systematic review of task restructuring interventions", Journal of Epidemiology & Community Health, Vol 61(12), p.1028.

Baxter S., Goyder L., Herrmann K., Pickvance S., & Chilcott J. (2009) Mental well-being through productive and healthy working conditions (Promoting well-being at work), School of Health and Related Research (ScHARR).

Bell J. & Burnett A. (2009) "Exercise for the primary, secondary and tertiary prevention of low back pain in the workplace: a systematic review", Journal of Occupational Rehabilitation, Vol. 19(1), pp.8-24.

Bellew, B. (2008) "Primary prevention of chronic disease in Australia through interventions in the workplace setting: an evidence check rapid review", Chronic Disease Prevention Unit, Victorian Government Department of Human Services.

Benedict M.A. & Artherburn D. (2008) "Worksite-based weight loss programs: a systematic review of recent literature", American Journal of Health Promotion, Vol 22(6), pp.408-417.

Bevan, S. (2010) "The Business Case for Employees' Health and Wellbeing", The Work Foundation.

Black, C. (2008) "Working for a healthier tomorrow: work and health in Britain" , Department for Work and Pensions

Boocock M.G., McNair P.J., Larmer P.J., Armstrong B., Collier J., Simmonds M., & Garrett N. (2007) "Interventions for the prevention and management of neck/upper extremity musculoskeletal conditions: a systematic review", Occupational and Environmental Medicine, Vol 64(4), pp.291-303.

Brohan E., Henderson C., Wheat K., Malcolm E., Clement S., Barley E.A., Slade M., & Thornicroft G. (2012) "Systematic review of beliefs, behaviours and

influencing factors associated with disclosure of a mental health problem in the workplace", BMC Psychiatry, Vol. 12, pp.11.

Burton A.K., Balaque F. et al, (2006) European guidelines for prevention in low back pain. *European Spine Journal*, Vol. 15 (2), pp.136-168.

Business in the Community (2013) "Better physical and psychological health – Johnson Matthey".

Cahill K., & Lancaster T. (2013) "Workplace interventions for smoking cessation", Cochrane Database of Systematic Reviews 2014, Issue 2. Art. No.: CD003440. DOI: 10.1002/14651858.CD003440.pub4.

Cahill K., & Perera R. (2011) "Competitions and incentives for smoking cessation (Review)", Cochrane Database of Systematic Reviews 2008, Issue 3. Art. No.: CD004307. DOI: 10.1002/14651858.CD004307.pub3.

Cancelliere C., Cassidy D.J., Ammendolia C., & Cote P. (2011) "Are workplace health promotion programs effective at improving presenteeism in workers? A systematic review and best evidence synthesis of the literature", BMC Public Health, Vol 11, pp.395-395.

Carroll C., Rick J., Pilgrim H., Cameron J., & Hillage J. (2010) "Workplace involvement improves return to work rates among employees with back pain on long-term sick leave: a systematic review of the effectiveness and cost-effectiveness of interventions", Disability and Rehabilitation, Vol 32(8), pp.607-21.

Carvalho A.F.S., Dias E.C. (2012) "Health promotion in the workplace: a systematic review of the literature", *Revista Brasileira em Promocao da Daude*, 2012, Vol 25(1), p.116.

CBI (2013)"Fit for purpose: absence and workplace health survey"

Centers for Disease Control and Prevention (2013) "Workplace health model"

Chau J.Y., der Pleog H.P., van Uffelen J.G.Z., Wong J., Riphagen I., Healy G.N., Gilson N.D., Dunstan D.W., Bauman A.E., Owen N., & Brown W.J. (2010) "Are workplace interventions to reduce sitting effective? A systematic review", Preventive Medicine, Vol 51(5), pp.352-356.

City of London Corporation (2011) The City prospectus: City of London economic assessment 2010.

City of London Corporation (2013) FAQs and Statistics.

Conn V.S., Hafdahl A.R., Cooper P.S., Brown L.M., & Lusk S.L. (2009) "Meta-analysis of workplace physical activity interventions", American Journal of Preventive Medicine, Vol. 37(4), pp. 330-339.

Corbiere M., Shen J., Rouleau M., & Dewa C.S. (2009) "A systematic review of preventive interventions regarding mental health issues in organisations", Work, Vol. 33(1) pp. 81-116.

Damiani G., Federico B., Pinnarelli L., Sammarco A., & Ricciardi W. (2006). "Evaluating the effect of stress management programmes on work-site

absenteeism reduction: a systematic review", Italian Journal of Public Health, Vol. 3(2), pp. 38-43.

Desiron, J.A., DeRijk, A., Van Hoof E., & Donceel, P. (2011) "Occupational therapy and return to work: a systematic review", BMC Public Health, Vol. 11, pp. 615-615.

Dick, F. D., Graveling, R. A., Munro, W., & Walker - Bone, K. (2011) "Workplace management of upper limb disorders: a systematic review", Occupational Medicine, Vol, 61(1), pp.19-24.

Dugdill L, Brettle A, Hulme C, McCluskey S & Long AF. (2008) "Workplace physical activity interventions – a review", International Journal of Workplace Health Management, 1 (1). pp. 20-40.

Egan M., Bambra C., Sian T., Petticrew M., Whitehead M., & Thompson H. (2007) "The psychosocial and health effects of workplace reorganisation. 1. A systematic review of organisational-level interventions that aim to increase employee control", *Journal of Epidemiology & Community Health*, Vol. 61(11), pp. 945-54.

Egan M., Bambra C., Petticrew M., & Whitehead M. (2009) "Reviewing evidence on complex social interventions: appraising implementation on systematic reviews of the health effects of organisational-level workplace interventions", Journal of Epidemiology & Community Health, 63, pp. 4-11.

Employee Benefits (2010) "Workplace offers potential in tackling obesity crisis".

Engbers, L.H., van Poppel M., Chin A Paw M.J., & van Mechelen, W. (2005) "Worksite health promotion programs with environmental changes: a systematic review", American Journal of Preventive Medicine, Vol. 29(1), pp. 61-70.

European Agency for Safety & Health at Work (2005), "Workplace Health Promotion".

European Commission (2003) "Commission recommendation of 6 May 2003, concerning the definition of micro, small and medium-sized enterprises".

Franche R.L., Cullen K., Clarke J., Irvin E., Sinclair S., & Frank J. (2005) "Workplace-based return-to-work interventions: a systematic review of the quantitative literature", Journal of Occupational Rehabilitation.

Freak-Poli RLA, Cumpston M, Peeters A., & Clemes SA. (2013) "Workplace pedometer interventions for increasing physical activity (Review)", The Cochrane Collaboration.

Furber, C. (2010) "Framework analysis: a method for analysing qualitative data", African Journal of Midwifery and Women's Health, 4(2).

Furlan A., Willian G., Carnide N., Irvin E., Amick B., DeRango K., McMaster R., Cullen K., Slack T., Brouwer S., & Buitmann U. (2012) "Systematic review of intervention practices for depression in the workplace", Journal of Occupational Rehabilitation, Vol. 22(3), pp. 312-322.

Geaney F., Kelly C., Greiner B.A., Harrington J.M., Perry I.J., & Beirne P. (2013) "The effectiveness of workplace dietary modification interventions: A systematic review", Preventive Medicine, Vol. 57(5), pp. 438-447.

Geotzel (2009) "Do prevention or treatment services save money? The wrong debate", Health Aff (Millwood); 28:37–41.

Graveling R.A., Crawford J.O., Cowie H., Amati C., & Vohra S. (2008) "A review of workplace interventions that promote mental wellbeing in the workplace" Institute of Occupational Medicine, Edinburgh.

Groeneveld I.F., Proper K.I., van der Beek A.J., Hildebrandt V.H., & van Mechelen W. (2010). "Lifestyle-focused interventions at the workplace to reduce the risk of cardiovascular disease - a systematic review", Scandinavian Journal of Work, Environment & Health, Vol. 36(3), pp.202-215.

Gross A., Forget M., St George K., Fraser MMH., Graham N., Perry L., Burnie S.J., Goldsmith C.H., Haines T., & Brunarski, D. (2012) "Patient education for neck pain (Review)", The Cochrane Collaboration.

Gudzune K., Hutfless S., Naruthur N., Wilson R., & Segal J. (2013) "Strategies to prevent weight gain in workplace and college settings", Preventive Medicine, Vol. 57(4), pp.268-277.

Higgins A., O'Halloran P., Porter S. (2012) "Management of long term sickness absence: a systematic realist review", Journal of Occupational Rehabilitation, 2012, Vol. 22(3), pp. 322-332.

Hill D., Lucy D., Tyers C., & James L. (2007)"What works at work? Review of evidence assessing the effectiveness of workplace interventions to prevent and manage common health problems", Institute for Employment Studies.

Hoe V.C.W., Urquhart D.M., Kelsall H.L., & Sim M.R. (2012) "Ergonomic design and training for preventing work-related musculoskeletal disorders of the upper limb and neck in adults (Review)", The Cochrane Collaboration.

HSE (2013)"Stress and psychological disorders in Great Britain."

Hutchinson A.D., & Wilson C. (2012) "Improving nutrition and physical activity in the workplace: a meta-analysis of intervention studies", Health Promotion International, Vol. 27(2), pp. 238-249.

Jonker, C.S. (2009) "The effect of an emotional intelligence development programme on accountants", SA Journal of Human Resource Management/ SA Tydskrif vir Menslikehulpbronbestuur, Vol. 7(1), pp.180 – 189.

Joyce K., Pabayo R., Critchley J.A., & Bambra C. (2010) "Flexible working conditions and their effects on employee health and wellbeing (Review)", The Cochrane Collaboration.

Karjalainen K.A., Malmivaara A., van Tulder M.W., Roine R., Jauhiainen M., Hurri H., & Koes B.W. (2008) "Multidisciplinary biopsychosocial rehabilitation for subacute low-back pain among working age adults (Review)", The Cochrane Collaboration.

Kennedy C., Amick III. B., Dennerlein J., Brewer S., Catli, S., Williams R., Serra C., Gerr F., Irvin E., Mahood Q., Franzblau A., Eerd D., Evanoff B., & Rempel D. (2010) "Systematic review of the role of occupational health and safety interventions in the prevention of upper extremity musculoskeletal symptoms, signs, disorders, injuries, claims and lost time", Journal of Occupational Rehabilitation, Vol. 20(2), pp.127-162.

Lacey, A. & Luff, D. (2009) "Qualitative data analysis", The NIHR RDS for the East Midlands/Yorkshire & the Humber.

Lamontagne A.D., Keegal T., Louie A.M., Ostry A., & Landsbergis P.A. (2007) "A systematic review of the job-stress intervention evaluation literature, 1990–2005", International Journal of Occupational & Environmental Health, Vol. 13, pp. 268-280.

Larsson, B., Søgaard, K. & Rosendal, L. (2007) "Work related neck-shoulder pain: a review on magnitude, risk factors, biochemical characteristics, clinical picture and preventive interventions", Best Practice & Research Clinical Rheumatology, Vol. 21(3): 447-463.

Leeks K.D., Hopkins D.P., Soler R.E., Adam E.A., & Chattopadhyay S.J. (2010) "Worksite-based incentives and competitions to reduce tobacco use: a systematic review", American Journal of Preventive Medicine, Vol. 38(2), pp.263-274.

Maes, L., Van CauwenbergheE., Van Lippevelde W., Spittaels H., De Pauw E., Oppert J.M., Van Lenthe F.J., Brug, J., & De Bourdeaudhuij I. (2012) "Effectiveness of workplace interventions in Europe promoting healthy eating: a systematic review", The European Journal of Public Health, 2012, Vol. 22(5), pp.677-683.

Malik S.H., Black H., & Suggs I.S. (2013) "A systematic review of workplace health promotion interventions for increasing physical activity", British Journal of Health Psychology, epub

Martin A., Sanderson K., & Cocker F. (2009) "Meta-analysis of the effects of health promotion intervention in the workplace on depression and anxiety symptoms", Scandinavian Journal of Work, Environment & Health, Vol. 35(1), pp. 7-18.

McLeod J. (2010) "The effectiveness of workplace counselling: A systematic review", Psychotherapy Research, 2010, Vol. 10(4), pp.238-248.

Mitchie S., Williams S. (2003) "Reducing work related psychological ill health and sickness absence: a systematic literature review", Occupational & Environmental Medicine, Vol. 60, pp. 3-9.

Mutsvunguma P. & Gwandure C. (2011) "The psychological well-being of employees who handle cash in a bank in inner city Johannesburg", Psychology, Health & Medicine, Vol. 16(4), pp.430-436

Newcombe T. (2013) "Personal health crisis looming in global banking, says study", HR Magazine – October 17th.

NHS webpage, Mental health outcomes strategy.

Nieuwenhenhuijsen K., Buitmann U., Neumeyer-Gromen A., Verthoeven A.C., Verbeek J.H., & Feitz-Cornelis C.M. (2008) "Interventions to improve occupational health in depressed people", The Cochrane Collaboration.

NiMhurchu C., Aston L.M., Jebb S.A. (2010) "Effects of worksite health promotion interventions on employee diets: a systematic review", BMC Public *Health*, Vol. 10, pp. 62-62.

Office for National Statistics (2012)" Sickness absence in the Labour market".

Office for National Statistics, (2013) "Business Register and Employment Survey", October 2013.

Office for National Statistics (2013) "The Workday Population of England and Wales: An Alternative 2011 Census Output Base".

Oscilla et al., (2012) "Systematic review of the impact of worksite wellness programs", The American Journal of Managed Care, Vol 18(2), pp 68-81.

Oxford Economics (2013) "The contribution of financial and professional services to the City of London, greater London and UK economies", City of London Corporation.

Palmer K.T., Harris E.C., Linaker C., Barker M., Lawrence W., Cooper C., & Coggon D. (2012) "Effectiveness of community- and workplace-based interventions to manage musculoskeletal-related sickness absence and job loss: a systematic review", Rheumatology, Vol. 51(2), pp.230-242.

Parks K.M., & Steelman L.A. (2008) "Organizational wellness programs: a meta-analysis", Journal of Occupational Health Psychology, Vol. 13 (1), pp. 58-68.

Price Waterhouse Coopers (2013) "Rising sick bill is costing UK business £29bn a year", PwC research.

Prochaska JO, DiClemente CC. (1984) "Self-change processes, self-efficacy and decisional balance across five stages of smoking cessation", Prog Clin Biol Res.

Proper K.I., Koning M., Van der Beek A., Hildebrandt V.H., Bosscher R.J., & Van Mechelen W. (2003)"The effectiveness of worksite physical activity programs on physical activity, physical fitness, and health", Clinical Journal of Sport Medicine, Vol. 13(2), pp.106-117.

Quyen G., Chen T.T.L., Magnussen C.G., & To K.G. (2013) "Workplace physical activity interventions: a systematic review", American Journal of Health Promotion, Vol. 27(6), pp.113-23.

Richardson K.M., & Rothstein H.R. (2008) "Effects of occupational stress management intervention programs: a meta-analysis", Journal of Occupational Health Psychology, Vol. 13(1), pp.69-93.

Ritchie, J. Spencer, L. (1994) "Qualitative data analysis for applied policy research", in Bryam, A. and Burgess, R.G. (eds.), Analyzing Qualitative Data (pp.173-194), London: Routledge.

Robertson I.T. & Cooper C.L. (2010) "Full engagement: the integration of employee engagement and psychological well-being", Leadership & Organization Development Journal, Vol 31 (4), pp. 324-336.

Robinson M., Raine G., & South J. (2010) "Mental health & employment evidence review", Centre for Health Promotion Research, Leeds Metropolitan University.

Robson L.S., Clarke J.A., Cullen K., Bielecky A., Severin C., Bigelow P.L., Irvin E., Culyer A., & Mahood Q. (2007) "The effectiveness of occupational health and safety management system interventions: A systematic review", Safety Science, Vol. 45(3) pp. 329-353.

Robson L.S., Stephenson C.M., Schulte P.A., Amick B.C., Irvin E.L., Eggerth D.E., Chan S., Bielecky A.R., Wang A.M., Heidotting T.L., Peters R.H., Clarke J.A., Cullen K., Rotunda C.J., & Grubb P.L. (2012) "A systematic review of the effectiveness of occupational health and safety training", *Scandinavian* Journal of Work, Environment and Health, 38(3), pp. 193-208.

Rongen, A., Robroek, S.J.W., van Lenthe, F.J., & Burdorf, A. (2013) "Workplace health promotion a meta-analysis of effectiveness", American Journal of Preventive Medicine, Vol. 44(4), pp. 406-415.

Rueda, S., Chambers, L., Wilson, M., Mustard, C., Rourke, SB., Bayoumi, A., Raboud, J., Lavis, J. (2012) "Association of returning to work with better health in working-aged adults: a systematic review", American Journal of Public Health, 102(3).

Schaafsma, F.G., Whelan, K., van der Beek, A.J., van der Es-Lambeek, L.C., Ojajärvi, A., Verbee,k J.H. (2013) "Physical conditioning as part of a return to work strategy to reduce sickness absence for workers with back pain (Review)", The Cochrane Collaboration.

Seymour, L. & Grove, B. (2005) "Workplace interventions for people with common mental health problems", London: British Occupational Health Research Foundation.

Soler R.E., Leeks K.D., Razi S., Hopkins D.P., Griffith M., Aten A., Chattopadhyay S.K., Smith S.C., Habarta N., Geotzel R.Z., Pronk N.P., Richling D.E.., Bauer D.R.., Buchanan L.R., Ramsey L., Florence C.S., Koonin L., Maclean D., Rosenthal A., Matson K.D., Grizzel J.V., Walker A.M. (2010) "A systematic review of selected interventions for worksite health promotion. The assessment of health risks with feedback", American Journal of Preventive Medicine, Vol. 38(2), pp. 237-62.

TBR (2014) *"The Impact of Firm Migration on the City of London: Summary Report"*, City of London Corporation.

PHAST (2012) "The public health and primary healthcare needs of City workers", City of London Corporation and NHS North East London and the City.

Tveito T.H., Hysing M., & Erikson H.R. (2004) "Low back pain interventions at the workplace: a systematic literature review", Occupational Medicine, Vol. 54(1), pp. 3-13.

UNI Finance (2013) "Banking: the human crisis: job losses and the restructuring process in the financial sector".

Van Dongen, J.M. (2012)"A systematic review of the cost-effectiveness of worksite physical activity and/or nutrition programs", Scandinavian Journal of Work, Environment & Health, Vol. 38(5), pp. 393-408.

Van Dongen J.M., Proper K.I., Van Wier M.F., Van Der Beek A.J., Bongers P.M., Van Mechelen W., & Van Tulder M.W. (2011) "Systematic review on the financial return of worksite health promotion programmes aimed at improving nutrition and/or increasing physical activity", Obesity Reviews, Vol 12(12), pp. 1031-1049.

Van Steenbergen E.F., & Ellemers N. (2009) "Is managing the work-family interface worthwhile? Benefits for employee health and performance", Journal of Organizational Behavior, Vol 30, pp. 617-642

Van Stolk C., Hofman, J., Hafner, M., & Janta, B. (2014) "Psychological wellbeing and work: improving service provision and outcomes", Rand Europe for the Department of Work and Pensions and Department of Health/

Van Niekerk S.M., Louw Q.A., & Hillier S. (2012) "The effectiveness of a chair intervention in the workplace to reduce musculoskeletal symptoms: A systematic review", BMC Musculoskeletal Disorders, Vol. 13, pp. 145-145.

Verbeek J., Pulliainen J., & Kankaapaa E. (2009) "A systematic review of occupational safety and health business cases", Scandinavian Journal of Work, Environment and Health, Vol. 35(6),pp.403-413

Verhagen A.P., Karels C.C., Bierma-Zeinstra S.M.A., Burdorf L.L., Feleus A., Dahaghin S.S.D., de Vet H.C.W., & Koes B.W. (2009) "Ergonomic and physiotherapeutic interventions for treating work-related complaints of the arm, neck or shoulder in adults", The Cochrane Library.

Webb G., Shakeshaft A., Sanson-fisher R., & Havard A. (2009) "A systematic review of work-place interventions for alcohol-related problems", Addiction, Vol. 104(3), pp. 365-378.

WHO (2010) "Healthy workplaces: a model for action for employers, workers, policy-makers and practitioners".

Williams R.M., Westmorland M.G., Schmuck G., & Macdermid J.C. (2004) "Effectiveness of workplace rehabilitation interventions in the treatment of work-related upper extremity disorders: a systematic review", Journal of hand therapy, Vol. 17(2), pp. 267-73.

10 Appendices

10.1 Appendix 1: Results of searches for systematic reviews

Theme One – Multi-component programmes/generic reviews – (e.g. worksite wellness programmes/CVD programme) – eight reviews

Author	Date	Title	Source	Key Findings
Acosta S., Heolscher D .	2010	Systematic Review of Worksite-Based Behavior Change Programs that Target Metabolic Syndrome Risk Factors	Journal of the American Dietetic Association, Vol. 110(9), pp. 15-15	This review sought to determine the effects of worksite-based behaviour change programs on reducing the risk factors for metabolic syndrome in adults. Using relevant search terms, OVID MEDLINE was used to search the peer-reviewed literature published since 1998, resulting in 23 articles meeting the inclusion criteria. The American Dietetic Association's Evidence Analysis Process was used to abstract data from selected articles, assess and compile the evidence, develop a summarised conclusion, and assign a grade based upon the strength of supporting evidence. The results revealed participation in a worksite-based behaviour change program may be associated in one or more improved metabolic syndrome risk factors. Programmes that delivered a higher dose (22 hours), in a shorter duration (2 years) using two or more behaviour-change strategies were associated with more metabolic risk factors being positively impacted. A Conclusion Grade of III was obtained for the evidence, indicating that studies were of weak design or results were inconclusive due to inadequate sample sizes, bias and lack of generalisability. These results provide some support for the continued use of worksite-based health promotion and further research is needed to determine if multi-strategy, intense behaviour change programs targeting multiple risk factors are able to sustain health improvements in the long term.
Bellew B.	2008	Primary prevention of chronic	Evidence Check Review brokered by the Sax Institute for the Victorian	The review found strong to definitive evidence for effectiveness of interventions in the following areas:

Author	Date	Title	Source	Key Findings
		disease in Australia through interventions in the workplace setting: a rapid review	Government Department of Human Services	Tobacco control • Interventions directed towards individual smokers to increase the likelihood of quitting smoking; • Iobacco policies and bans to decrease cigarette consumption during the working day and exposure of non-smoking employees to environmental tobacco smoke at work. Physical activity • Prompts to increase stair use; • Access to places and opportunities for physical activity; • Education, employee and peer support; • Multicomponent interventions combining nutrition and physical activity. Nutrition • Multicomponent interventions that include physical activity as well as nutrition; • Strategies such as nutrition education, dietary prescription, behavioural skills development and training to control adult overweight and obesity; • Enhanced access to and availability of nutritious foods; • Promotional strategies at point-of-purchase. Stress • Interventions that focus on both the organisation and the individual;

Author	Date	Title	Source	Key Findings
				• Employee participation strategies designed to increase job control and Autonomy; • Strategies to provide personal support to employees; and • Cognitive-behavioural intervention programs. Comprehensive or multi-component programs • Individualised risk reduction for high risk employees within the context of a comprehensive program. The review found indicative evidence for workplace interventions incorporating the following cross cutting approaches: • Use of the Transtheoretical model (stages of change); • Individual tailoring of interventions; • Internet-provided health information; • Benefits-linked financial incentives; • Telephone based high-risk intervention coaching; • Self-directed goal-setting for change; • Annual required morbidity-based health risk appraisals (HRAs) used for individual targeting of interventions. Identified success factors for WHP programmes include: • Senior management involvement; • Participatory planning; • Integrating Health Productivity Management (HPM)/ Workplace Health Promotion (WHP) programs into the organization's operations; • Strengthening the organisational climate for

Author	Date	Title	Source	Key Findings
				implementation by making sure that targeted employees have easy access to high-quality training, technical assistance and documentation; • Providing incentives for use and providing feedback on innovation use (all of which enhance motivation) and by making the innovation easily accessible or easy to use; • Giving targeted employees time to learn how to deliver and use the innovation, and redesigning work processes to fit innovation use (all of which increase opportunities or remove barriers); • Simultaneously addressing individual, environmental, policy, and cultural factors affecting health and productivity; • Targeting several health issues; • Recognition that a person's health is determined by an interdependent set of factors; • Focusing primarily on employees' needs; • Tailoring programs to address specific needs; • Attaining high participation; • Optimising the use of on-site resources; • Ensuring long term commitment to the program; • Rigorously evaluating programs; • Disseminating successful outcomes/promising practices to key stakeholders.
Carvalho A.F.S., Dias E.C.	2012	Health Promotion in the Workplace: a	Revista Brasileira em Promocao da Daude, 2012, vol 25(1). P.116	Results: The 95 selected articles were classified according to the studied topics and the main focus of their interventions. The overall results of this analysis show the importance of proper planning, evaluation of results to correct any failure

Author	Date	Title	Source	Key Findings
		systematic review of the literature		of execution and of mixing individual and organisational interventions to optimise results. Conclusions: Scientific publications dealing with actions of Health Promotion at workplace are found in good number, comprising the major theoretical and practical aspects related to their implementation. Nevertheless, few studies are carried out by teams of Occupational Health and health managers of companies, with great predominance of essays performed by professionals involved in the academic area.
Hill D., Lucy D., Tyers C., & James L.	2007	What works at work? Review of evidence assessing the effectiveness of workplace interventions to prevent and manage common health problems	A report carried out by the Institute for Employment Studies on behalf of the cross-government Health Work and Wellbeing Executive	• Interventions which included some form of employer/employee partnership, and/or consultation, demonstrated improved results (compared to those which did not); • The workplace can be an appropriate and effective setting for the prevention of common health problems; • It is not only the employee's health condition that is important to consider, but also their attitudes and beliefs. Cognitive behavioural approaches are one way of effectively addressing this aspect of health and recovery; • Interventions should be comprehensive, addressing both individual and organisation-level factors. Specific interventions have also been shown to be effective if, for example, organisational interventions are combined with complementary individual intervention; • Improved communication, co-operation and common agreed goals between employers, employees, occupational health providers and primary care

Author	Date	Title	Source	Key Findings
				professionals can result in faster recovery, less re-occurrence of ill-health, and less time out of work overall; • Current attendance management practice and policy is based on convention rather than evidence. There are lessons to be learnt through an examination of the medical and occupational literature, especially where this literature makes use of work-related outcomes; • More, and better quality, evaluations of workplace interventions are required to fully understand the complex interactions between workplace practices and employee health. However, there are other types of evidence already.
Osilla K.C., Van Busum K., Schnyer C., Larkin J.W., Wozar J., Eibner C., Soeren M.	2012	Systematic review of the impact of worksite wellness programmes	The American Journal of Managed Care, Vol 18(2), pp. 68-81	Objectives: To analyae the impact of worksite wellness programs on health and financial outcomes, and the effect of incentives on participation. Methods: Sources were PubMed, CINAHL & EconLit, Embase, Web of Science, and Cochrane for 2000-2011. Articles with comparison groups that assessed health-related behaviours, physiologic markers, healthcare cost, and absenteeism were examined. Data on intervention, outcome, size, industry, research design, and incentive use were extracted. Results: A total of 33 studies evaluated 63 outcomes. Positive effects were found for three-fourths of observational designs compared with half of outcomes in randomised controlled trials. A total of 8 of 13 studies found improvements in physical activity, 6 of 12 in diet, 6 of 12 in body mass index/weight, and 3 of 4 in mental health. A total of 6 of 7

Author	Date	Title	Source	Key Findings
				studies on tobacco and 2 of 3 on alcohol use found significant reductions. All 4 studies on absenteeism and 7 of 8 on healthcare costs estimated significant decreases. Only 2 of 23 studies evaluated the impact of incentives and found positive health outcomes and decreased costs. Conclusions: The studies yielded mixed results regarding impact of wellness programs on health-related behaviors, substance use, physiologic markers, and cost, while the evidence for effects on absenteeism and mental health is insufficient. The validity of those findings is reduced by the lack of rigorous evaluation designs. Further, the body of publications is in stark contrast to the widespread use of such programs, and research on the effect of incentives is lacking.
Parks K.M., Steelman L.A.	2008	Organisational wellness programmes: a meta-analysis	Journal of Occupational Health Psychology, Vol. 13 (1), pp. 58-68	Organisational wellness programmes are on or off-site services sponsored by organisations which attempt to promote good health or to identify and correct potential health related problems (Wolfe, Parker, & Napier, 1994). The authors conducted a meta-analysis on studies that examined the effects of participation in an organsational wellness program (fitness or comprehensive) on absenteeism and job satisfaction. The results revealed that participation in an organisational wellness program was associated with decreased absenteeism and increased job satisfaction. The type of wellness program (fitness only or comprehensive) and the methodological rigor of the primary studies were examined as moderators; however, no moderating effects were found. These results provide some empirical support for

Author	Date	Title	Source	Key Findings
				the effectiveness of organisational wellness programs.
Rongen, A., Robroek, S.J.W., van Lenthe, F.J., & Burdorf, A.	2013	Workplace Health Promotion: A Meta-Analysis of Effectiveness	American Journal of Preventive Medicine Vol. 44(4), pp. 406-415	A systematic review of RCTs before June 2012, evaluating the effect of a WHPP aimed at smoking cessation, physical activity, healthy nutrition, and/or obesity on self-perceived health, work absence due to sickness, work productivity, or work ability. In 18 studies describing 21 interventions, the overall effect of a WHPP was small (ES_ 0.24, 95% CI_ 0.14, 0.34). The effectiveness of a WHPP was larger in younger populations, in interventions with weekly contacts, and in studies in which the control group received no health promotion. A 2.6-fold lower effectiveness was observed for studies performing an intention-to- treat analysis and a 1.7-fold lower effectiveness for studies controlling for confounders. Studies of poor methodologic quality reported a 2.9-fold higher effect size of the WHPP.
Soler R.E., Leeks K.D., Razi S., Hopkins D.P., Griffith M., Aten A., Chattopadhyay S.K., Smith S.C., Habarta N., Geotzel R.Z., Pronk N.P., Richling D.E..,	2010	A systematic review of selected interventions for worksite health promotion. The assessment of health risks with feedback	American Journal of Preventive Medicine, Vol. 38(2), pp. 237-62	Background: Many health behaviours and physiologic indicators can be used to estimate one's likelihood of illness or premature death. Methods have been developed to assess this risk, most notably the use of a health-risk assessment or biometric screening tool. This report provides recommendations on the effectiveness of interventions that use an Assessment of Health Risks with Feedback (AHRF) when used alone or as part of a broader worksite health promotion program to improve the health of employees. Method: The *Guide to Community Preventive Services*'

Author	Date	Title	Source	Key Findings
Bauer D.R.., Buchanan L.R., Ramsey L., Florence C.S., Koonin L., Maclean D., Rosenthal A., Matson K.D., Grizzel J.V., Walker A.M.				methods for systematic reviews was used to evaluate the effectiveness of AHRF when used alone and when used in combination with other intervention components. Effectiveness was assessed on the basis of changes in health behaviours and physiologic estimates, but was also informed by changes in risk estimates, healthcare service use, and worker productivity. Analysis: The review team identified strong evidence of effectiveness of AHRF when used with health education with or without other intervention components for five outcomes. There is sufficient evidence of effectiveness for four additional outcomes assessed. There is insufficient evidence to determine effectiveness for others such as changes in body composition and fruit and vegetable intake. The team also found insufficient evidence to determine the effectiveness of AHRF when implemented alone. Conclusions: The results of these reviews indicate that AHRF is useful as a gateway intervention to a broader worksite health promotion program that includes health education lasting ≥1 hour or repeating multiple times during 1 year, and that may include an array of health promotion activities. These reviews form the basis of the recommendations by the Task Force on Community Preventive Services presented elsewhere in this supplement.

10.2 Theme two – Lifestyle interventions – (sub-divided into the areas of smoking; alcohol & drug use; nutrition interventions; physical activity interventions; weight management interventions; interventions that combine physical activity and nutrition) – 18 reviews

Author	Date	Title	Source	Key Findings
Anderson L.M., Quinn T.A., Gianz K., Ramirez G., Kahwati L.C., Johnson D.B., Buchanan L.R.,	2009	The Effectiveness of Worksite Nutrition and Physical Activity Interventions for Controlling Employee Overweight and Obesity: A Systematic Review pdf	American Journal of Preventive Medicine, Vol. 37(4), pp.340-357	This report presents the results of a systematic review of the effectiveness of worksite nutrition and physical activity programs to promote healthy weight among employees. These results form the basis for the recommendation by the Task Force on Community Preventive Services on the use of these interventions. Weight-related outcomes, including weight in pounds or kilograms, BMI, and percentage body fat were used to assess effectiveness of these programs. This review found that worksite nutrition and physical activity programs achieve modest improvements in employee weight status at the 6–12-month follow-up. A pooled effect estimate of −2.8 pounds (95% CI=−4.6, −1.0) was found based on nine RCTs, and a decrease in BMI of −0.5 (95% CI=−0.8, −0.2) was found based on six RCTs. The findings appear to be applicable to both male and female employees, across a range of worksite settings. Most of the studies combined informational and behavioral strategies to influence diet and physical activity; fewer studies modified the work environment (e.g., cafeteria, exercise facilities) to promote healthy choices. Information about other effects, barriers to implementation, cost and cost effectiveness of interventions, and research gaps are also presented in this article. The findings of this systematic review can help inform decisions of employers, planners, researchers, and other

Author	Date	Title	Source	Key Findings
				public health decision makers.
Benedict M.A. & Artherburn D.	2008	Worksite-based weight loss programs: a systematic review of recent literature	American Journal of Health Promotion, Vol 22(6), pp. s408-417	Objective: To update a previous systematic review on the effectiveness of worksite--based weight loss programs. Data Source: The following databases were searched: Medline, PsychIIVFO, Embase, The Cochrane Library, and LexisNexis. Study Inclusion and Exclusion. Studies were limited to those published in English from 1995 to 2006 to which the following inclusion criteria were applied: (1) worksite intervention, (2) body weight assessed before and after intervention, and (3) study duration of at least 8 weeks. Data Extraction: Data were extracted on the following: study design; funding source; purpose of evaluation; participant and worksite characteristics; type, intensity and duration of intervention; primary and secondary outcomes; and methodological quality. Data Synthesis: Heterogeneity of study designs precluded quantitative data synthesis. Results. We identified 11 randomised controlled trials, most of which focused on education and counselling to improve diet and increase physical activity. Follow-up ranged from 2 to 18 months, with 56% to 100% of subjects completing the studies. The overall methodological quality of the studies was poor. Intervention groups lost significantly more weight than controls, with the mean difference in weight loss ranging from -0.2 to -6.4 kg. Conclusion. Worksite-based weight loss programs can result in modest short improvements in body weight; however,

Author	Date	Title	Source	Key Findings
				long-term data on health and economic outcomes are lacking. Implications: There is a need for rigorous controlled studies of worksite-based interventions that integrate educational, behavioural, environmental, and economic supports.
Cahill K, Moher M, Lancaster T	2008	Workplace interventions for smoking cessation (Review)	The Cochrane Collaboration	There was strong evidence that interventions directed towards individual smokers increase the likelihood of quitting smoking. These include individual and group counselling and pharmacological treatment to overcome nicotine addiction. All these interventions show similar effects whether offered in the workplace or elsewhere. Self-help interventions and social support are less effective. Although people taking up these interventions are more likely to stop, the absolute numbers who quite are low. There was limited evidence that participation in programmes can be increased by competitions and incentives organized by the employer. Failed to detect an effect of comprehensive programmes in reducing the prevalence of smoking.
Cahill K, Perera R	2011	Competitions and incentives for smoking cessation (Review)	The Cochrane Collaboration	With the exception of one recent trial, incentives and competitions have not been shown to enhance long-term cessation rates. Early success tended to dissipate when the rewards were no longer offered. Rewarding participation and compliance in contests and cessation programmes may have potential to deliver higher absolute numbers of

Author	Date	Title	Source	Key Findings
				quitters. The one trial that achieved sustained success rates beyond the reward schedule concentrated its resources into substantial cash payments for abstinence rather than into running its own smoking cessation programme. Such an approach may only be feasible where independently-funded smoking cessation programmes are already available. Future research might explore the scale and longevity of possible cash reward schedules, within a variety of smoking populations.
Chau J.Y., der Pleog H.P., van Uffelen J.G.Z., Wong J., Riphagen I., Healy G.N., Gilson N.D., Dunstan D.W., Bauman A.E., Owen N., & Brown W.J.	2010	Are workplace interventions to reduce sitting effective? A systematic review	Preventive Medicine, Vol 51(5), pp.352-356	Results: Six studies met the inclusion criteria (five randomised trials and one pre–post study). The primary aim of all six was to increase physical activity; all had reducing sitting as a secondary aim. All used self-report measures of sitting; one specifically assessed occupational sitting time; the others used measures of general sitting. No studies showed that sitting decreased significantly in the intervention group, compared with a control or comparison group. Conclusion: Currently, there is a dearth of evidence on the effectiveness of workplace interventions for reducing sitting. In light of the growing body of evidence that prolonged sitting is negatively associated with health, this highlights a gap in the scientific literature that needs to be addressed.
Conn V.S., Hafdahl A.R., Cooper P.S., Brown L.M., Lusk	2009	Meta-analysis of workplace physical activity interventions	American Journal of Preventive Medicine, Vol. 37(4), pp. 330-339	Context: Most adults do not achieve adequate physical activity levels. Despite the potential benefits of worksite health promotion, no previous comprehensive meta-analysis has summarised health and physical activity behaviour outcomes from such programs. This comprehensive meta-

Author	Date	Title	Source	Key Findings
S.L.				analysis integrated the extant wide range of worksite physical activity intervention research. Method: Extensive searching located published and unpublished intervention studies reported from 1969 through 2007. Results were coded from primary studies. Random-effects meta-analytic procedures, including moderator analyses, were completed in 2008. Analysis: Effects on most variables were substantially heterogeneous because diverse studies were included. Standardized mean difference (d) effect sizes were synthesized across approximately 38,231 subjects. Significantly positive effects were observed for physical activity behaviour (0.21); fitness (0.57); lipids (0.13); anthropometric measures (0.08); work attendance (0.19); and job stress (0.33). The significant effect size for diabetes risk (0.98) is less robust given small sample sizes. The mean effect size for fitness corresponds to a difference between treatment minus control subjects' means on VO2max of 3.5 mL/kg/min; for lipids, -0.2 on the ratio of total cholesterol to high-density lipoprotein; and for diabetes risk, -12.6 mg/dL on fasting glucose. Conclusions: These findings document that some workplace physical activity interventions can improve both health and important worksite outcomes. Effects were variable for most outcomes, reflecting the diversity of primary studies. Future primary research should compare interventions to confirm

Author	Date	Title	Source	Key Findings
				causal relationships and further explore heterogeneity.
Dugdill L, Brettle A, Hulme C, McCluskey S and Long AF	2008	Workplace physical activity interventions – a review	International Journal of Workplace Health Management. 1 (1). pp. 20-40	14 studies were graded as ++ (high quality) or + (good quality). Evidence from previous systematic reviews was inconclusive. Data regarding the effectiveness of stair walking interventions was limited and intervention effects were short-lived. 3 public sector studies provided evidence that workplace walking interventions using pedometers can increase daily step counts. One good quality study reported a positive intervention effect on walking to work behaviour (active travel) in economically advantaged female employees. There was strong evidence that workplace counselling influenced physical activity behaviour. Implications: there is a growing evidence base that workplace physical activity interventions can positively influence physical activity behaviour
Freak-Poli RLA, Cumpston M, Peeters A, Clemes SA	2013	Workplace pedometer interventions for increasing physical activity (Review)	The Cochrane Collaboration	In general, there was high risk of bias mainly due to lack of blinding, self-reported outcome measurement, incomplete outcome data due to attrition, and most of the studies had not published protocols, which increases the likelihood of selective reporting. There was limited and low quality data providing insufficient evidence to assess the effectiveness of pedometer interventions in the workplace for increasing physical activity and improving subsequent health outcomes.
Geaney F., Kelly	2013	The effectiveness	Preventive Medicine,	Results: Six studies conducted in Brazil, the USA, Netherlands

Author	Date	Title	Source	Key Findings
C., Greiner B.A., Harrington J.M., Perry I.J., Beirne P.		of workplace dietary modification interventions: A systematic review	Vol 57(5), pp.438-447	and Belgium met the inclusion criteria. Four studies reported small increases in fruit and vegetable consumption (≤ half serving/day). These studies involved workplace dietary modifications and three incorporated nutrition education. Other outcomes reported included health status, co-worker support, job satisfaction, perceived health, self-efficacy and food-purchasing patterns. All studies had methodological limitations that weakened confidence in the results. Conclusion: Limited evidence suggests that workplace dietary modification interventions alone and in combination with nutrition education increase fruit and vegetable intakes. These interventions should be developed with recommended guidelines, workplace characteristics, long-term follow-up and objective outcomes for diet, health and cost.
Groeneveld I.F., Proper K.I., van der Beek A.J., Hildebrandt V.H., van Mechelen W.	2010	Lifestyle-focused interventions at the workplace to reduce the risk of cardiovascular disease - a systematic review pdf	Scandinavian Journal of Work, Environment & Health, Vol 36(3), pp.202-215	Strong evidence was found for the effectiveness of workplace lifestyle-based interventions on body fat and, in populations at risk for CVD, body weight. Populations with an elevated risk of CVD seemed to benefit most from lifestyle interventions; supervised exercise interventions appeared the least effective intervention strategy. To gain better insight into the mechanisms that led to the intervention effects, the participants' compliance with the intervention and the lifestyle changes achieved should be reported in future studies.
Gudzune K., Hutfless S.,	2013	Strategies to prevent weight	Preventive Medicine,	Results: We included 7 work- and 2 college-based interventional studies, which all used combinations of

Author	Date	Title	Source	Key Findings
Naruthur N., Wilson R., & Segal J.		gain in workplace and college settings	Vol 57(4), pp.268-277	different strategies. There was moderate strength of evidence that work/college-based combination interventions prevented weight gain of ≥ 0.5 kg over 12 months as compared to control; however, we were unable to perform meta-analysis due to substantial heterogeneity in the intervention strategies and study populations. These programmes did not prevent BMI gain or waist circumference increase. Conclusion: While limited evidence was found that work/college-based interventions employing a combination of strategies prevent adult weight gain, the combination of personalised diet and physical activity counselling for the individual along with the promotion of healthy lifestyle changes in the environment may be a promising strategy to explore in future research.
Hutchinson A.D., Wilson C.	2012	Improving nutrition and physical activity in the workplace: a meta-analysis of intervention studies	Health Promotion International, Vol. 27(2), pp. 238-249	A comprehensive search of the literature for studies examining physical activity or nutrition interventions in the workplace, published between 1999 and March 2009, was conducted. This search identified 29 relevant studies. Interventions were grouped according to the theoretical framework on which the interventions were based (e.g. education, cognitive-behavioural, motivation enhancement, social influence, exercise). Weighted Cohen's d effects sizes, percentage overlap statistics, confidence intervals and fail safe Ns were calculated. Most theoretical approaches were associated with small effects. However, large effects were found for some measures of interventions using motivation enhancement. Effect sizes

Author	Date	Title	Source	Key Findings
				were larger for studies focusing on one health behaviour and for randomized controlled trials. The workplace is a suitable environment for making modest changes in the physical activity, nutrition and health of employees. Further research is necessary to determine whether these changes can be maintained in the long term.
Leeks K.D., Hopkins D.P., Soler R.E., Adam E.A., Chattopadhyay s.j.	2010	Worksite-Based Incentives and Competitions to Reduce Tobacco Use: A Systematic Review	American Journal of Preventive Medicine, Vol. 38(2), pp.263-274	The Guide to Community Preventive Service (Community Guide) methods for systematic reviews was used to evaluate the evidence of effectiveness of worksite-based incentives and competitions to reduce tobacco use among workers. These interventions offer a reward to individuals or to teams of individuals on the basis of participation or success in a specified smoking behaviour change (such as abstaining from tobacco use for a period of time). The review team identified a total of 26 published studies, 14 of which met study design and quality of execution criteria for inclusion in the final assessment. Only one study, which did not qualify for review, evaluated the use of incentives when implemented alone. All of the 14 qualifying studies evaluated incentives and competitions when implemented in combination with a variety of additional interventions, such as client education, smoking cessation groups, and telephone cessation support. Of the qualifying studies, 13 evaluated differences in tobacco-use cessation among intervention participants, with a median follow-up period of 12 months. The median change in self-reported tobacco-use cessation was an increase of 4.4 percentage points (a median relative percentage improvement of 67%). The

Author	Date	Title	Source	Key Findings
				present evidence is insufficient to determine the effectiveness of incentives or competitions, when implemented alone, to reduce tobacco use. However, the qualifying studies provide strong evidence, according to Community Guide rules, that worksite-based incentives and competitions in combination with additional interventions are effective in increasing the number of workers who quit using tobacco. In addition, these multicomponent interventions have the potential to generate positive economic returns over investment when the averted costs of tobacco-associated illnesses are considered. A concurrent systematic review identified four studies with economic evidence. Two of these studies provided evidence of net cost savings to employers when program costs are adjusted for averted healthcare expenses and productivity losses, based on referenced secondary estimates.
Maes, L., Van Cauwenberghe E., Van Lippevelde W., Spittaels H., De Pauw E., Oppert J.M., Van Lenthe F.J., Brug, J., De Bourdeaudhuij I.	2012	Effectiveness of workplace interventions in Europe promoting healthy eating: a systematic review	The European Journal of Public Health, 2012, Vol. 22(5), pp.677-683	Results: Seventeen studies solely focusing on promotion of a healthy diet were identified. Eight were educational, one used worksite environmental change strategies, and eight used a combination of both (multi-component). None of the interventions were rated as 'strong'; seven met the criteria for 'moderate' quality. The reviewed studies show moderately evidence for effects on diet. Thirteen studies focusing both on nutrition and physical activity (nine educational and four multi-component studies) were identified. Ten were rated as having 'weak' and three as having 'moderate' methodological quality, providing inconclusive evidence for effects.

Author	Date	Title	Source	Key Findings
				Conclusion: Limited to moderate evidence was found for positive effects of nutrition interventions implemented at the workplace. Effects of workplace health promotion interventions may be improved if stronger adherence to established quality criteria for such interventions is realized.
Malik S.H., Black H., Suggs l.s.	2013	A systematic review of workplace health promotion interventions for increasing physical activity pdf	British Journal of Health Psychology, epub	Fifty-eight trials were included in the review. The quality of trials varied; blinded outcome assessment and intention-to-treat analysis were seldom reported. Follow-up ranged from two weeks to five years. A few studies reported the initial similarity of groups; all but one physical activity or exercise trial reported this. Attrition rates varied from 1% to 65%; for physical activity or exercise trials the rates ranged from 9.2% to 10%. Physical activity or exercise: There were six trials, with 1,672 individuals. Four trials found some improvement in physical activity, which was statistically significant, compared with control, in two trials. A workplace walking programme resulted in increased step counts, compared with control, and a mandatory physical activity intervention increased weekly physical activity, compared with control. Counselling or support: There were 13 trials, with 7,377 individuals. Ten trials indicated some improvement in physical activity, and eight of them showed a statistically significant increase, compared with control. A range of interventions was effective. Health promotion messages or information: There were 39

Author	Date	Title	Source	Key Findings
				trials, with 28,567 individuals. Twenty-nine trials indicated some improvement in physical activity, which was statistically significant in 22 of them, compared with control. There were greater improvements when the state-of-change levels were matched to the intervention, than when they were mismatched (six trials). Conclusions: There was some evidence that workplace physical activity interventions were effective, but overall the results were inconclusive and further research was needed.
NiMhurchu C., Aston L.M., Jebb S.A.,	2010	Effects of worksite health promotion interventions on employee diets: a systematic review	BMC Public Health, Vol. 10, pp. 62-62	Previous research has suggested worksite health promotion programmes have positive effects on physical activity and weight loss, yet little is known regarding their effects on dietary behaviour. The aim of this review was to assess the effects of worksite interventions on employee diets. Methods Electronic databases (MEDLINE, The Cochrane Library, PsycINFO, EMBASE, LexisNexis) were searched for relevant articles published between 1995 and April 2009. Studies were eligible for inclusion if they were peer-reviewed English language publications describing a worksite-based health promotion intervention with minimum study duration of eight weeks. All study designs were eligible. Studies had to report one or more diet-related outcome (energy, fat, fruit, or vegetable intakes). Methodological quality was assessed using a checklist that included randomisation methods, use of a control group, and study attrition rates. Results Sixteen studies were included in the review. Eight programmes focussed on employee education, and the remainder targeted change to the worksite environment, either alone

Author	Date	Title	Source	Key Findings
				or in combination with education. Study methodological quality was moderate. In general, worksite interventions led to positive changes in fruit, vegetable and total fat intake. However, reliance on self-reported methods of dietary assessment means there is a significant risk of bias. No study measured more robust outcomes such as absenteeism, productivity, or healthcare utilisation. Conclusions The findings of this review suggest that worksite health promotion programmes are associated with moderate improvement in dietary intake. The quality of studies to date has been frequently sub-optimal and further, well designed studies are needed in order to reliably determine effectiveness and cost-effectiveness. Future programmes to improve employee dietary habits should move beyond individual education and aim to intervene at multiple levels of the worksite environment.
Quyen G., Chen T.T.L., Magnussen C.G., & To K.G.	2013	Workplace physical activity interventions: a systematic review	American Journal of Health Promotion, Vol. 27(6), pp.113-23	Results: Twelve (60%) of 20 selected interventions reported an improvement in physical activity level, steps, or BMI, and there was one slowed step reduction in the intervention group. Among these, 10 were less than 6 months in duration; 9 used pedometers; 6 applied Internet-based approaches; and 5 included activities targeting social and environmental levels. Seven of 8 interventions with pre-posttest and quasi-experimental controlled design showed improvement on at least one outcome. However, 7 of 12 randomized controlled trials (RCTs) did not prove effective in any outcome. Conclusion: Interventions that had less rigorous research designs, used pedometers, applied Internet-based

Author	Date	Title	Source	Key Findings
				approaches, and included activities at social and environmental levels were more likely to report being effective than those without these characteristics.
Webb G., Shakeshaft A., Sanson-fisher R., Havard A.	2009	A systematic review of work-place interventions for alcohol-related problems	Addiction, Vol. 104(3), pp. 365-378	Aims: The aims of this study were to (1) gauge any improvement in methodological quality of work-place interventions addressing alcohol problems; and (2) to determine which interventions most effectively reduce work-place-related alcohol problems. Methods: A literature search was undertaken of the data bases, Ovid Medline, PsychINFO, Web of Science, Scopus, HSELINE, OSHLINE and NIOSHTIC-2 for papers published between January 1995 and September 2007 (inclusive). Search terms varied, depending on the database. Papers were included for analysis if they reported on interventions conducted at work-places with the aim of reducing alcohol problems. Methodological adequacy of the studies was assessed using a method derived from the Cochrane Collaboration guidelines. Results: Ten papers reporting on work-place alcohol interventions were located. Only four studies employed randomised controlled trials (RCT), but all these had methodological problems. Weaknesses in all studies related to representativeness of samples, consent and participation rates, blinding, post-test time-frames, contamination and reliability, and validity of measures used. All except one study reported statistically significant differences in measures such as reduced alcohol consumption, binge drinking and

Author	Date	Title	Source	Key Findings
				alcohol problems. Conclusions The literature review revealed few methodologically adequate studies of work-place alcohol interventions. Study designs, types of interventions, measures employed and types of work-places varied considerably, making comparison of results difficult. However, it appears from the evidence that brief interventions, interventions contained within health and life-style checks, psychosocial skills training and peer referral have potential to produce beneficial results.

10.3 Theme three: Musculoskeletal interventions – 15 reviews

Author	Date	Title	Source	Key Findings
Aas RW, Tuntland H, Holte KA, Røe C, Lund T, Marklund S, Moller A	2011	Workplace interventions for neck pain in workers (Review)	The Cochrane Collaboration	Overall, this review found low quality evidence that neither supported nor refuted the benefits of any specific WI for pain relief and moderate quality evidence that a multiple-component intervention reduced sickness absence in the intermediate-term, which was not sustained over time. Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate. There is an urgent need for high quality RCTs with well-designed WIs.
Bell J., & Burnett A.	2009	Exercise for the Primary, Secondary and Tertiary Prevention of Low Back Pain in the Workplace: A Systematic Review	Journal of Occupational Rehabilitation, Vol 19(1), pp.8-24	Results: There was strong evidence that exercise was effective in reducing the severity and activity interference from LBP. However, due to the poor methodological quality of studies and conflicting results, there was only limited evidence supporting the use of exercise to prevent LBP episodes in the workplace. Other methodological limitations such as differing combinations of exercise, study populations, participant presentation, workloads and outcome measures; levels of exercise adherence and a lack of reporting on effect sizes, adverse effects, and types of sub-groups, make it difficult to draw definitive conclusions on the efficacy of workplace exercise in preventing LBP. Conclusions: Only two out of the 15 studies reviewed were high in methodological quality and showed significant reductions in LBP intensity with exercise. Future research is needed to clarify which exercises are effective and the

Author	Date	Title	Source	Key Findings
				dose-response relationships regarding exercise & outcomes.
Boo Boocock M.G., McNair P.J., Larmer P.J., Armstrong B., Collier J., Simmonds M., & Garrett N.	2007	Interventions for the prevention and management of neck/upper extremity musculoskeletal conditions: a systematic review.	Journal of Occupational and Environmental Medicine, Vol 64(4), pp.291-303	Considered from medical, social or economic perspectives, the cost of musculoskeletal injuries experienced in the workplace is substantial, and there is a need to identify the most efficacious interventions for their effective prevention, management and rehabilitation. Previous reviews have highlighted the limited number of studies that focus on upper extremity intervention programmes. The aim of this study was to evaluate the findings of primary, secondary and/or tertiary intervention studies for neck/upper extremity conditions undertaken between 1999 and 2004 and to compare these results with those of previous reviews. Relevant studies were retrieved through the use of a systematic approach to literature searching and evaluated using a standardised tool. Evidence was then classified according to a "pattern of evidence" approach. Studies were categorised into subgroups depending on the type of intervention: mechanical exposure interventions; production systems/organisational culture interventions and modifier interventions. 31 intervention studies met the inclusion criteria. The findings provided evidence to support the use of some mechanical and modifier interventions as approaches for preventing and managing neck/upper extremity musculoskeletal conditions and fibromyalgia. Evidence to support the benefits of production systems/organisational culture interventions was found to be lacking. This review identified no single - dimensional or multi - dimensional strategy for intervention that was considered effective

Author	Date	Title	Source	Key Findings
				across occupational settings. There is limited information to support the establishment of evidence - based guidelines applicable to a number of industrial sectors.
Carroll C., Rick J., Pilgrim H., Cameron J., Hillage J.	2010	Workplace involvement improves return to work rates among employees with back pain on long-term sick leave: a systematic review of the effectiveness and cost-effectiveness of interventions	Disability and Rehavilitation, Vol 32(8), pp.607-21	Results: Ten articles were found reporting nine trials from Europe and Canada, and four articles were found evaluating the cost-effectiveness of interventions. The population in eight trials suffered from back pain and related musculoskeletal conditions. Interventions involving employees, health practitioners and employers working together, to implement work modifications for the absentee, were more consistently effective than other interventions. Early intervention was also found to be effective. The majority of trials were of good or moderate quality. Economic evaluations indicated that interventions with a workplace component are likely to be more cost effective than those without. Conclusion: Stakeholder participation and work modification are more effective and cost effective at returning to work adults with musculoskeletal conditions than other workplace-linked interventions, including exercise.
Dick, F. D., Graveling, R. A., Munro, W., Walker - Bone, K.	2011	Workplace management of upper limb disorders: a systematic review	Occupational Medicine, Vol, 61(1), pp.19-24	There was limited evidence that computer keyboards with altered force displacement characteristics or altered geometry were effective in reducing carpal tunnel syndrome symptoms. There was limited, but high quality, evidence that multi-disciplinary rehabilitation for non-specific musculoskeletal arm pain was beneficial for those workers absent from work for at least four weeks. In adults

Author	Date	Title	Source	Key Findings
				with tenosynovitis there was limited evidence that modified computer keyboards were effective in reducing symptoms. There was a lack of high quality evidence to inform workplace management of lateral epicondylitis. Further research is needed focusing on occupational management of upper limb disorders. Where evidence exists, workplace outcomes (e.g. successful return to pre-morbid employment; lost working days) are rarely addressed.
Gross A, Forget M, St George K, Fraser MMH, Graham N, Perry L, Burnie SJ, Goldsmith CH, Haines T, Brunarski D	2012	Patient education for neck pain (Review)	The Cochrane Collaboration	Advice focusing on pain & stress coping skills and workplace ergonomics: Very low quality evidence (three trials, 243 participants) favoured other treatment or showed no difference spanning numerous follow-up periods and disorder subtypes. Low quality evidence (one trial, 192 participants) favoured specific exercise training for chronic neck pain at short-term follow-up. Authors' conclusions: With the exception of one trial, this review has not shown effectiveness for educational interventions, including advice to activate, advice on stress-coping skills, workplace ergonomics and self-care strategies. Future research should be founded on sound adult learning theory and learning skill acquisition.
Hoe VCW, Urquhart DM, Kelsall HL, Sim MR	2012	Ergonomic design and training for preventing work-related musculoskeletal	The Cochrane Collaboration	There was moderate-quality evidence to suggest that the use of arm support with alternative mouse may reduce the incidence of neck/shoulder MSDs, but not right upper limb MSDs. Moreover, there is also moderate-quality evidence to suggest that the incidence of neck/shoulder and right upper limb MSDs is not reduced when comparing alternative and

Author	Date	Title	Source	Key Findings
		disorders of the upper limb and neck in adults (Review)		conventional mouse with and without arm support. However, given there were multiple comparisons made involving a number of interventions and outcomes, high-quality evidence is needed to determine the effectiveness of these interventions clearly. While very-low- to low-quality evidence was found to suggest that other ergonomic interventions do not prevent work-related MSDs of the upper limb and neck, this was limited by the paucity and heterogeneity of available studies. This review highlights the need for high-quality RCTs examining the prevention of MSDs of the upper limb and neck.
Karjalainen KA, Malmivaara A, van Tulder MW, Roine R, Jauhiainen M, Hurri H, Koes BW	2008	Multidisciplinary biopsychosocial rehabilitation for subacute low-back pain among working age adults (Review)	The Cochrane Collaboration	Conclusion: there is moderate evidence of positive effectiveness of multidisciplinary rehabilitation for sub-acute low back pain and that a workplace visit increases the effectiveness. But because this evidence is based on trials that had some methodological shortcomings, and several expensive multidisciplinary rehabilitation programmes are commonly used for uncomplicated/non-specific sub-acute low back problems, there is an obvious need for high quality trials in this field.
Kennedy C., Amick III. B., Dennerlein J., Brewer S., Catli, S., Williams R., Serra C., Gerr F., Irvin E., Mahood Q., Franzblau A.,	2010	Systematic Review of the Role of Occupational Health and Safety Interventions in the Prevention	Journal of Occupational Rehabilitation, Vol. 20(2), pp.127-162	Background: Little is known about the most effective occupational health and safety (OHS) interventions to reduce upper extremity musculoskeletal disorders (MSDs) and injuries. Methods: A systematic review used a best evidence synthesis approach to address the question: "Do occupational health and safety interventions have an effect

Author	Date	Title	Source	Key Findings
Eerd D., Evanoff B., Rempel D.		of Upper Extremity Musculoskeletal Symptoms, Signs, Disorders, Injuries, Claims and Lost Time		on upper extremity musculoskeletal symptoms, signs, disorders, injuries, claims and lost time?" Results: The search identified 36 studies of sufficient methodological quality to be included in data extraction and evidence synthesis. Overall, a mixed level of evidence was found for OHS interventions. Levels of evidence for interventions associated with positive effects were: Moderate evidence for arm supports; and Limited evidence for ergonomics training plus workstation adjustments, new chair and rest breaks. Levels of evidence for interventions associated with "no effect" were: Strong evidence for workstation adjustment alone; Moderate evidence for biofeedback training and job stress management training; and Limited evidence for cognitive behavioral training. No interventions were associated with "negative effects". Conclusion: It is difficult to make strong evidenced-based recommendations about what practitioners should do to prevent or manage upper extremity MSDs. There is a paucity of high quality OHS interventions evaluating upper extremity MSDs and none focused on traumatic injury outcomes or workplace mandated pre-placement screening exams. We recommend that worksites not engage in OHS activities that include only workstation adjustments. However, when combined with ergonomics training, there is limited evidence that workstation adjustments are beneficial. A practice to consider is using arm supports to reduce upper extremity MSDs.

Author	Date	Title	Source	Key Findings
Larsson, B., Søgaard, K. and Rosendal, L.	2007	Work related neck-shoulder pain: a review on magnitude, risk factors, biochemical characteristics, clinical picture and preventive interventions.	American Journal of Preventive Medicine, Vol. 38(2), pp.263-274.	The purpose of this review is to scrutinise the physiology of neck-shoulder pain and trapezius myalgia based on the most recent scientific literature. Therefore, systematic literature searches have been conducted. Occurrence of neck-shoulder pain, risk factors for development of neck-shoulder pain, and its work-relatedness are addressed. Furthermore, the latest information on the biochemical milieu within healthy and painful neck-shoulder muscles is reviewed. Finally diagnosis of and intervention for neck and shoulder pain are discussed.
Palmer K.T., Harris E.C., Linaker C., Barker M., Lawrence W., Cooper C., & Coggon D.	2012	Effectiveness of community- and workplace-based interventions to manage musculoskeletal -related sickness absence and job loss: a systematic review	Rheumatology, Vol. 51(2), pp.230-242	Most interventions appeared beneficial: the median relative risk (RR) for return to work was 1.21 (IQR 1.00–1.60) and that for avoiding MSD-related job loss was 1.25 (IQR 1.06–1.71); the median reduction in sickness absence was 1.11 (IQR 0.32–3.20) days/month. However, effects were smaller in larger and better-quality studies, suggesting publication bias. No intervention was clearly superior, although effort-intensive interventions were less effective than simple ones. No cost–benefit analyses established statistically significant net economic benefits. As benefits are small and of doubtful cost-effectiveness, employers' practice should be guided by their value judgments about the uncertainties. Expensive interventions should be implemented only with rigorous cost–benefit evaluation planned from the outset. Future research should focus on the cost-effectiveness of simple, low-cost interventions, and further explore impacts on job retention.
Tveito T.H., Hysing M., &	2004	Low back pain interventions at	Occupational Medicine, Vol. 54(1),	Results: Thirty-one publications from 28 interventions were found to comply with the inclusion criteria. Exercise

Author	Date	Title	Source	Key Findings
Erikson H.R.		the workplace: a systematic literature review	pp.3-13	interventions to prevent LBP among employees and interventions to treat employees with LBP have documented an effect on sick leave, costs and new episodes of LBP. Multidisciplinary interventions have documented an effect on the level of pain. Conclusions: The results show that there is good reason to be careful when considering interventions aiming to prevent LBP among employees. Of all the workplace interventions only exercise and the comprehensive multidisciplinary and treatment interventions have a documented effect on LBP. There is a need for studies employing good methodology.
Van Niekerk S.M., Louw Q.A., & Hillier S.	2012	The effectiveness of a chair intervention in the workplace to reduce musculoskeletal symptoms. A systematic review	BMC Musculoskeletal Disorders, Vol. 13, pp. 145-145	Results: Five studies were included in the review. The number of participants varied from four to 293 participants. Three of the five studies were Randomised Controlled Trials, one pre and post-test study was conducted and one single case, multiple baselines (ABAB) study was done. Three studies were conducted in a garment factory, one in an office environment and one with university students. All five studies found a reduction in self-reported musculoskeletal pain immediately after the intervention. Bias was introduced due to poor randomization procedures and lack of concealed allocation. Meta-analysis was not possible due to the heterogeneity of the data (differing population, intervention and outcomes across studies). Conclusion: The findings of this review indicate a consistent trend that supports the role of a chair intervention to reduce musculoskeletal symptoms among workers who are required

Author	Date	Title	Source	Key Findings
				to sit for prolonged periods. However the amount, level and quality of the evidence are only moderate therefore we cannot make strong recommendations until further trials are conducted. The review also highlights gaps: for example in showing whether the effectiveness of a chair intervention has long-term impact, particularly with respect to musculoskeletal symptoms, as well as the recurrence of symptoms and the consequent cost of care.
Verhagen A.P., Karels C.C., Bierma-Zeinstra S.M.A., Burdorf L.L., Feleus A., Dahaghin S.S.D., de Vet H.C.W., & Koes B.W.	2009	Ergonomic and physiotherapeutic interventions for treating work-related complaints of the arm, neck or shoulder in adults.	The Cochrane Library	Background: Conservative interventions such as physiotherapy and ergonomic adjustments (such as keyboard adjustments or ergonomic advice) play a major role in the treatment of most work-related complaints of the arm, neck or shoulder (CANS). Objectives: This systematic review aims to determine whether conservative interventions have a significant impact on outcomes for work-related CANS in adults. Search strategy: We searched the Cochrane Bone, Joint and Muscle Trauma Group Specialised Register (March 2005) and Cochrane Rehabilitation and Related Therapies Field Specialised Register (March 2005), the Cochrane Controlled Trials Register (The Cochrane Library, Issue 1, 2005), PubMed, EMBASE, CINAHL, AMED and reference lists of articles. The date of the last search was March 2005. No language restrictions were applied. Results: For this update we included six additional studies; 21 trials in total. Seventeen trials included people with chronic

Author	Date	Title	Source	Key Findings
				non-specific neck or shoulder complaints, or non-specific upper extremity disorders. Over 25 interventions were evaluated; five main subgroups of interventions could be determined: exercises, manual therapy, massage, ergonomics, and energised splint. Overall, the quality of the studies was poor. In 14 studies a form of exercise was evaluated, and contrary to the previous review we now found limited evidence about the effectiveness of exercises when compared to massage and conflicting evidence when exercises are compared to no treatment. In this update there is limited evidence for adding breaks during computer work; massage as add-on treatment on manual therapy, manual therapy as add-on treatment on exercises; and some keyboard designs when compared to other keyboards or placebo in participants with carpal tunnel syndrome. Conclusions: There is limited evidence for the effectiveness of keyboards with an alternative force-displacement of the keys or an alternative geometry, and limited evidence for the effectiveness of exercises compared to massage; breaks during computer work compared to no breaks; massage as an add-on treatment to manual therapy; and manual therapy as an add-on treatment to exercises.
Williams R.M., Westmorland M.G., Schmuck G., Macdermid	2004	Effectiveness of workplace rehabilitation interventions in the treatment	Journal of hand therapy, Vol. 17(2), pp. 267-73	The purpose of this systematic review was to evaluate the available evidence on workplace rehabilitation interventions for work-related upper extremity disorders (WRUEDs). The literature search identified a total of 811 abstracts from Medline, Cumulative Index to Nursing and Allied Health

Author	Date	Title	Source	Key Findings
J.C.		of work-related upper extremity disorders: a systematic review		Literature (CINAHL), and EMBASE databases. The abstracts were independently assessed by four reviewers and 53 full-text articles were identified. Twenty-one studies were then randomly allocated to two pairs of reviewers. Using a 24-item critical appraisal form, the reviewers evaluated the articles for quality and level of evidence. During this process, an additional 13 articles were discarded, resulting in eight studies. The effectiveness of these studies was limited by small sample sizes, lack of standardized outcome measures, and inadequate reporting of interventions and results. The findings of this review indicate that the evidence for workplace interventions for WRUEDs has not been established. This systematic review provides a rigorous analysis of workplace interventions for WRUEDs and emphasizes the need for further research in this area.

10.4 Theme Four – Return to work/sickness absence/presenteeism – seven reviews

Author	Date	Title	Source	Key Findings
Cancelliere C., Cassidy D.J., Ammendolia C., & Cote P.	2011	Are workplace health promotion programs effective at improving presenteeism in workers? a systematic review and best	BMC Public Health, Vol 11, pp.395-395	Results: After 2,032 titles and abstracts were screened, 47 articles were reviewed, and 14 were accepted (4 strong and 10 moderate studies). These studies contained preliminary evidence for a positive effect of some WHP programs. Successful programs offered organizational leadership, health risk screening, individually tailored programs, and a supportive workplace culture. Potential risk factors contributing to presenteeism included being overweight, a poor diet, lack of exercise, high stress, and

Author	Date	Title	Source	Key Findings
		evidence synthesis of the literature		poor relations with co-workers and management. Limitations: This review is limited to English publications. A large number of reviewed studies (70%) were inadmissible due to issues of bias, thus limiting the amount of primary evidence. The uncertainties surrounding presenteeism measurement is of significant concern as a source of bias. Conclusions: The presenteeism literature is young and heterogeneous. There is preliminary evidence that some WHP programs can positively affect presenteeism and that certain risk factors are of importance. Future research would benefit from standard presenteeism metrics and studies conducted across a broad range of workplace settings
Desiron, J.A., DeRijk, A., Van Hoof E., Donceel, P.	2011	Occupational therapy and return to work: a systematic review	BMC Public Health, Vol 11, pp. 615-615	Background: The primary aim of this review study was to gather evidence on the effectiveness in terms of return to work (RTW) of occupational therapy interventions (OTIs) in rehabilitation patients with non-congenital disorders. A secondary aim was to be able to select the most efficient OTI. Methods: A systematic literature review of peer-reviewed papers was conducted using electronic databases (Cinahl, Cochrane Library, Ebsco, Medline (Pubmed), and PsycInfo). The search focussed on randomised controlled trials and cohort studies published in English from 1980 until September 2010. Scientific validity of the studies was assessed. Results: Starting from 1532 papers with pertinent titles, six studies met the quality criteria. Results show systematic

Author	Date	Title	Source	Key Findings
				reviewing of OTIs on RTW was challenging due to varying populations, different outcome measures, and poor descriptions of methodology. There is evidence that OTIs as part of rehabilitation programs, increase RTW rates, although the methodological evidence of most studies is weak. Conclusions: Analysis of the selected papers indicated that OTIs positively influence RTW; two studies described precisely what the content of their OTI was. In order to identify the added value of OTIs on RTW, studies with well-defined OT intervention protocols are necessary.
Franche R.L., Cullen K., Clarke J., Irvin E., Sinclair S., Frank J.	2005	Workplace-Based Return-to-Work Interventions: A systematic review of the Quantitative Literature	Journal of Occupational Rehabilitation	Introduction: A systematic review was conducted to review the effectiveness of workplace-based return-to-work (RTW) interventions. Method: Seven databases were searched, in English and French, between January 1990 and December 2003 for peer-reviewed studies of RTW interventions provided at the workplace to workers with work disability associated with musculoskeletal or other pain-related conditions. Methodological quality appraisal and data extraction were conducted by pairs of reviewers. Results: Of a total of 4124 papers identified by the search, 10 studies were of sufficient quality to be included in the review. There was strong evidence that work disability duration is significantly reduced by work accommodation offers and contact between healthcare provider and workplace; and moderate evidence that it is reduced by interventions which

Author	Date	Title	Source	Key Findings
				include early contact with worker by workplace, ergonomic work site visits, and presence of a RTW coordinator. For these five intervention components, there was moderate evidence that they reduce costs associated with work disability duration. Evidence for sustainability of these effects was insufficient or limited. Evidence regarding the impact of supernumerary replacements was insufficient. Evidence levels regarding the impact of the intervention components on quality-of-life was insufficient or mixed. Conclusions: Our systematic review provides the evidence base supporting that workplace-based RTW interventions can reduce work disability duration and associated costs, however the evidence regarding their impact on quality-of-life outcomes was much weaker.
Higgins A., O'Halloran P., Porter S.	2012	Management of Long Term Sickness Absence: A Systematic Realist Review	Journal of Occupational Rehabilitation, 2012, Vol. 22(3), pp. 322-332	The increasing impact and costs of long term sickness absence have been well documented. However, the diversity and complexity of interventions and of the contexts in which these take place makes a traditional review problematic. Therefore, we undertook a systematic realist review to identify the dominant programme theories underlying best practice, to assess the evidence for these theories, and to throw light on important enabling or disabling contextual factors. Method: A search of the scholarly literature from 1950 to 2011 identified 5,576 articles, of which 269 formed the basis of the review.

Author	Date	Title	Source	Key Findings
				Results: We found that the dominant programme theories in relation to effective management related to: early intervention or referral by employers; having proactive organisational procedures; good communication and cooperation between stakeholders; and workplace-based occupational rehabilitation. Significant contextual factors were identified as the level of support for interventions from top management, the size and structure of the organisation, the level of financial and organisational investment in the management of long-term sickness absence, and the quality of relationships between managers and staff. Conclusions: Consequently, those with responsibility for managing absence should bear in mind the contextual factors that are likely to have an impact on interventions, and do what they can to ensure stakeholders have at least a mutual understanding (if not a common purpose) in relation to their perceptions of interventions, goals, culture and practice in the management of long term sickness absence.
Mitchie S., Williams S.	2003	Reducing work related psychological ill health and sickness absence: a systematic literature review	Occupational & Environmental Medicine, Vol. 60, 3-9	A literature review revealed the following: key work factors associated with psychological ill health and sickness absence in staff were long hours worked, work overload and pressure, and the effects of these on personal lives; lack of control over work; lack of participation in decision making; poor social support; and unclear management and work role. There was some evidence that sickness absence was associated with poor management style. Successful interventions that improved psychological health and levels

Author	Date	Title	Source	Key Findings
				of sickness absence used training and organisational approaches to increase participation in decision making and problem solving, increase support and feedback, and improve communication. It is concluded that many of the work related variables associated with high levels of psychological ill health are potentially amenable to change. This is shown in intervention studies that have successfully improved psychological health and reduced sickness absence.
Rueda, Sergio;Chambers, Lori;Wilson, Mike;Mustard, Cameron;Rourke, Sean B.;Bayoumi, Ahmed;Raboud, Janet;Lavis, John	2012	Association of Returning to Work With Better Health in Working-Aged Adults: A Systematic Review	American Journal of Public Health, 102(3)	Objectives: We systematically reviewed the literature on the impact of returning to work on health among working-aged adults. Methods: We searched six electronic databases in 2005. We selected longitudinal studies that documented a transition from unemployment to employment and included a comparison group. Two reviewers independently appraised the retrieved literature for potential relevance and methodological quality. Results: Eighteen studies met our inclusion criteria, including one randomised controlled trial. Fifteen studies revealed a beneficial effect of returning to work on health, either demonstrating a significant improvement in health after reemployment or a significant decline in health attributed to continued unemployment. We also found evidence for health selection, suggesting that poor health interferes with people's ability to go back to work. Some evidence suggested that earlier reemployment may be associated

Author	Date	Title	Source	Key Findings
				with better health. Conclusions: Beneficial health effects of returning to work have been documented in a variety of populations, times, and settings. Return-to-work programs may improve not only financial situations but also health.
Schaafsma FG, Whelan K, van der Beek AJ, van der Es-Lambeek LC, Ojajärvi A, Verbeek JH	2013	Physical conditioning as part of a return to work strategy to reduce sickness absence for workers with back pain (Review)	The Cochrane Collaboration	The effectiveness of physical conditioning as part of a return to work strategy in reducing sick leave for workers with back pain, compared to usual care or exercise therapy, remains uncertain. For workers with acute back pain, physical conditioning may have no effect on sickness absence duration. There is conflicting evidence regarding the reduction of sickness absence duration with intense physical conditioning versus usual care for workers with sub-acute back pain. It may be that including workplace visits or execution of the intervention at the workplace is the component that renders a physical conditioning programme effective. For workers with chronic back pain physical conditioning has a small effect on reducing sick leave compared to care as usual after 12 months follow-up. To what extent physical conditioning as part of integrated care management may alter the effect on sick leave for workers with chronic back pain needs further research.

10.5 Theme Five: Psychosocial working environment (including work context & work content, stress management, mental etc.) – 11 reviews

Author	Date	Title	Source	Key Findings
Brohan E., Henderson C., Wheat K., Malcolm E., Clement S., Barley E.A., Slade M., Thornicroft G.	2012	Systematic review of beliefs, behaviours and influencing factors associated with disclosure of a mental health problem in the workplace	BMC Psychiatry, Vol 12, pp.11-11	Results: The searches yielded 8,971 items which was systematically reduced to 48 included studies. Sixteen qualitative, one mixed methods and seven quantitative studies were located containing evidence on the disclosure beliefs and behaviours of people with a mental health problem, and the factors associated with these beliefs and behaviours. In the meta-ethnography four super-ordinate themes were generated: 1) expectations and experiences of discrimination; 2) other reasons for non-disclosure; 3) reasons for disclosure; and 4) disclosure dimensions. Two qualitative, one mixed methods and 22 quantitative studies provided data to address the remaining two questions on the employers perspective. Conclusions: By presenting evidence from the perspective of individuals on both sides of the employment interaction, this review provides integrated perspective on the impact of disclosure of a mental health problem on employment outcomes.
Corbiere M., Shen J., Rouleau M., Dewa C.S.	2009	A systematic review of preventive interventions regarding mental health	Work, Vol. 33(1) pp. 81-116	The most recent review of the workplace prevention literature was published two decades ago. Since then, interest has been growing in the business and research communities in preventive workplace interventions. At the same time, there has been an increasing recognition of the complexity of developing workplace interventions. This

Author	Date	Title	Source	Key Findings
		issues in organizations		study's purpose is to assess the literature from 2001 to 2006 using Cottrell's conceptualization to: 1) conduct a systematic review of the most recent literature, 2) describe the preventive psychological interventions for workers, 3) summarize the significant work- and health-related outcomes associated with these interventions, and 4) identify where the significant gaps still exist. Twenty-four studies on primary and secondary interventions regarding mental health issues in organizations were included and analysed in this systematic review. Eight studies were identified as primary interventions, 14 were identified as secondary interventions, and two included both. There was a predominance of studies utilising skills training. One-third of studies used a combination of individual, group and organization level interventions, most often supported by psychosocial intervention or participatory research. These components brought positive and significant results with regard to work and mental health outcomes to workers.
Damian G., Federico B., Pinnarellli L., Sammarco A., Ricciardi W.	2006	Evaluating the effect of stress management programmmes on work-site absenteeism reduction: a systematic review	Italian Journal of Public Health, Vol 3(2)	The objective of our study was to estimate whether stress programmes aimed at managing and preventing work-related stress reduced the rate of absenteeism. Methods: We searched electronic databases for relevant articles assisted by hand searching for references. We included studies that had an experimental or quasi-experimental design, describing an intervention focused either on the work organisation or on workers' characteristics as well as reporting a measure of absenteeism.

Author	Date	Title	Source	Key Findings
				Results: The search identified 2,520 articles: among these, nine met our inclusion criteria. Stress management programmes reduced absenteeism shortly after the intervention however in the long term there was no evidence to support this. Conclusion: Future studies should evaluate stress management programmes that consist of repeated interventions over longer periods of time, focusing on effectiveness and relative costs.
Furlan A., Willian G., Carnide N., Irvin E., Amick B., DeRango K., McMaster R., Cullen K., Slack T., Brouwer S., & Buitmann U.	2012	Systematic review of intervention practices for depression in the workplace	Journal of Occupational Rehabilitation, Vol. 22(3), pp. 312-322	Results: We identified ten randomised trials and two non-randomised studies from various countries and jurisdictions that evaluated a wide range of intervention practices. The evidence was graded as 'very low' for all outcomes identified. Therefore, no intervention could be recommended. Conclusions: To date, there is insufficient quality of evidence to determine which interventions are effective and yield value to manage depression in the workplace.
Graveling R.A., Crawford J.O., Cowie H., Amati C., Vohra S.	2008	A Review of Workplace Interventions that Promote Mental Wellbeing in the Workplace	Institute of Occupational Medicine, Edinburgh	Participatory interventions had a positive effect (in 5 of the 11 studies) – however the quality ratings of the studies do not allow firm conclusions to be made. Organisational Level Interventions, which included: Training Supervisors/Managers – neither web-based training nor more traditional lecture based training for supervisors has been found to improve mental wellbeing in subordinate

Author	Date	Title	Source	Key Findings
				workers Altering shift or work practice – evidence (although the studies were quite small) that taking a vacation or changing the shift system had a positive impact on mental wellbeing and burnout. Support or training to improve skills or job role – (both studies on health care workers) – Psychosocial Intervention Training – some evidence of improvement to personal accomplishment and in one study depersonalization and exhaustion were shown to improve Individual Level Interventions, (stress management) which included: Training to cope with stress – diverse types of training, make it difficult to compare – but longer training seems to be more effective, as does training where interaction with others, e.g. facilitators takes place Counselling and therapy – limited research carried out – however, ACT, IPP and computerized CBT programmes have been found to have an effect on anxiety and depressive symptoms in the short term Exercise and relaxation interventions – 2 studies showed aerobic exercise has a positive effect on mental wellbeing. Insufficient evidence to show if relaxation training interventions/massage therapy are effective. One study on transcendental meditation found that anxiety scores were

Author	Date	Title	Source	Key Findings
				reduced at 3 months and after 3 month follow up Health promotion interventions – too difficult to pick out effectiveness of 'broader health promotion' campaigns
Lamontagne A.D., Keegal T., Louie A.M., Ostry A., & Landsbergis P.A.	2007	A Systematic Review of the Job-stress Intervention Evaluation Literature, 1990–2005	International Journal of Occupational & Environmental Health Vol. 13: 268-280	The review assessed systematic evaluations of job-stress interventions in terms of the degree of systems approach used. A high rating was defined as both organizationally and individually focused, versus moderate (organizational only), and low (individual only). The authors concluded that "Individual-focused", low-rated approaches are effective at the individual level, favourably affecting individual-level outcomes, but tend not to have favourable impacts at the organizational level. "Organisationally-focused" high- and moderate-rated approaches are beneficial at both individual and organizational levels. Further measures are needed to foster the dissemination and implementation of systems approaches to examining interventions for job stress.
Martin A., Sanderson K., Cocker F.	2009	Meta-analysis of the effects of health promotion intervention in the workplace on depression and anxiety symptoms	Scandinavian journal of Work, Environment & Health, Vol. 35(1), pp. 7-18	Objectives: The aim of the study was to investigate whether different types of health promotion intervention in the workplace reduce depression and anxiety symptoms. Methods: A systematic review and meta-analysis of the literature was undertaken on workplace health promotion published during the period 1997-2007. Studies were considered eligible for inclusion if they evaluated the impact of an intervention using a valid indicator or specific measure

Author	Date	Title	Source	Key Findings
				of depression or anxiety symptoms. The standardized mean difference was calculated for each of the following three types of outcome measures: depression, anxiety, and composite mental health. Results: Altogether 22 studies were found that met the inclusion criteria, with a total sample size of 3409 employees post intervention, and 17 of these studies were included in the meta-analysis, representing 20 intervention-control comparisons. The pooled results indicated small, but positive overall effects of the interventions with respect to symptoms of depression [SMD 0.28, 95% confidence interval (95% CI) 0.12-0.44] and anxiety (SMD 0.29, 95% CI 0.06-0.51), but no effect on composite mental health measures (SMD 0.05, 95% CI -0.03-0.13). The interventions that included a direct focus on mental health had a comparable effect on depression and anxiety symptoms, as did the interventions with an indirect focus on risk factors. Conclusions: When the aim is to reduce symptoms of depression and anxiety in employee populations, a broad range of health promotion interventions appear to be effective, although the effect is small.
McLeod J.	2010	The effectiveness of workplace counselling: A systematic review	Counselling and Psychotherapy Research, 2010, Vol. 10(4), pp.238-248	Findings: Taken as a whole, the results of research suggest that counselling is generally effective in alleviating psychological problems, has a significant impact on sickness absence, and has a moderate effect on attitudes to work. Discussion: Methodological issues are discussed, and it is

Author	Date	Title	Source	Key Findings
				recommended that more high-quality research is required in order to reinforce the evidence base for workplace counselling in relation to a number of key questions.
Nieuwenhenhuijsen K., Buitmann U., Neumeyer-Gromen A., Verthoeven A.C., Verbeek J.H., Feitz-Cornelis C.M.	2008	Interventions to improve occupational health in depressed people	The Cochrane Collaboration	We included eleven studies, all of worker-directed interventions, involving 2556 participants. Only one study addressed work issues using adjuvant occupational therapy. Other interventions evaluated anti-depressant medication (selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, tricyclic antidepressants, monoamino-oxidase inhibitors), psychodynamic therapy, enhanced primary care and psychological treatment For medication, the combined results of three studies (n=864) showed no difference between antidepressant medication and alternative medication in their effect on days of sickness absence (SMD 0.09; 95% CI -0.05 to 0.23) In two pooled studies (n=969), the effect of enhanced primary care on days of sickness absence did not differ from usual care in the medium term (SMD -0.02; 95% CI -0.15 to 0.12) All other comparisons were based on single studies (n=6), all of which showed a lack of significant difference for sickness absence between groups, with the exception of one small study, combined psychodynamic therapy and TCAs versus TCAs alone, which favoured the combined treatment. Based on a heterogeneous sample of studies, there is currently no evidence of an effect of medication alone, enhanced primary care, psychological interventions or the

Author	Date	Title	Source	Key Findings
				combination of those with medication on sickness absence of depressed workers. In future RCTs, interventions should specifically address work issues, and occupational outcomes should be used to measure the effect.
Richardson K.M. Rothstein H.R.	2008	Effects of occupational stress management intervention programs: a meta-analysis	Journal of Occupational Health Psychology, Vol 13(1), pp. 69-93	A meta-analysis was conducted to determine the effectiveness of stress management interventions in occupational settings. Thirty-six experimental studies were included, representing 55 interventions. Total sample size was 2,847. Of the participants, 59% were female, mean age was 35.4, and average length of intervention was 7.4 weeks. The overall weighted effect size (Cohen's d) for all studies was 0.526 (95% confidence interval = 0.364, 0.687), a significant medium to large effect. Interventions were coded as cognitive-behavioral, relaxation, organizational, multimodal, or alternative. Analyses based on these subgroups suggested that intervention type played a moderating role. Cognitive-behavioral programs consistently produced larger effects than other types of interventions, but if additional treatment components were added the effect was reduced. Within the sample of studies, relaxation interventions were most frequently used, and organizational interventions continued to be scarce. Effects were based mainly on psychological outcome variables, as opposed to physiological or organisational measures. The examination of additional moderators such as treatment length, outcome variable, and occupation did not reveal significant variations in effect size by intervention type.

Author	Date	Title	Source	Key Findings
Robinson M., Raine G., & South J.	2010	Mental Health & Employment Evidence Review	Centre for Health Promotion Research, Leeds Metropolitan University	Changes to work organisation which increase workers' control and which increase the proportion of support available in relation to the psycho-social demands of work can have important benefits to workers' health and may reduce health inequalities. This is particularly likely to be the case when the interventions involve worker participation in their implementation Multi-modal or combined target approaches which include both organisational and individual levels of intervention appear to work well and offer more prospect of sustainability than single target approaches. This applies in particular where these combined, 'multi-modal' approaches are also participatory, for example involving co-worker support groups and mechanisms for employer-employee participation. The process by which interventions at the organisational level work to affect individuals' mental well-being by reducing stressors involves various intervening factors, and can be quite complex. Approaches which are called 'highly systemic' have been found to work better than less systemic approaches. The use of 'systemic' is not consistent across the reviews. Common elements across reviews include that the systemic interventions combine primarily preventive organisational approaches with some focus on secondary and/or tertiary intervention and they include feedback loops linking up

Author	Date	Title	Source	Key Findings
				information between the different levels, for example through participatory processes involving employer-employee partnership. Greater involvement of line managers and supervisors contributes to better outcomes. Participatory approaches within organisational or organisational-and-individual combined interventions can affect workplace culture or organisational climate in empowering ways, and assist in making change sustainable. Individual or organisational/individual interventions which focus on individuals' beliefs and attitudes and not just on work conditions are more likely to be effective. Interventions which have several aspects at an individual level, for example focusing on personal support, social skills, and coping skills training, are more likely to be effective for those at some risk, than those which are less multi-facetted. Individual interventions that focus on cognitive behavioural techniques have been found widely effective for people with common mental health problems. These interventions produce stronger proactive effects than alternatives such as relaxation, but on the other hand they are more lengthy to deliver and demanding to act on, so they may be less popular in some settings. Individual level psychosocial interventions such as training can have limited effectiveness without the organisational support of senior managers; their greater support leads to better implementation and improved outcomes.

Author	Date	Title	Source	Key Findings
				Return-to-work interventions offering supported employment have been found to be more effective than prevocational training in helping people with severe mental illness to obtain competitive employment. Among the key aspects of interventions which contribute to recovery for people who have experienced mental illness are: • The importance of identifying peoples' strengths; • Encouraging self-confidence, trust, hope and empathy; • Appropriate timing of experiences of work; • Effective and timely support. These are also aspects which can contribute to empowerment. Finally there is a need for more high quality research designs, for example longitudinal studies which can give rise to better understandings of how the different parts of interventions connect up, highlighting causal relationships, workplace culture, and individual change. The next section provides further discussion about the robustness of the evidence base.

10.6 Theme Six – Approaches to workplace health improvement – organisational/environmental/health and safety – eight reviews

Author	Date	Title	Source	Key Findings
Bambra C., Egan M., Sian T., Gibson M., Petticrew M. & Whitehead M.	2007	The psychosocial and health effects of workplace reorganisation. 2. a systematic review of task restructuring interventions	Journal of Epidemiology & Community Health, Vol 61(12), p.1028	Results: Nineteen studies were reviewed. Some task restructuring interventions failed to alter the psychosocial work environment significantly, and so could not be expected to have a measurable effect on health. Those that increased demand and decreased control tended to have an adverse effect on health, while those that decreased demand and increased control resulted in improved health, although some effects were minimal. Increases in workplace support did not appear to mediate this relationship. Conclusion: This systematic review suggests that task restructuring interventions that increase demand or decrease control adversely affect the health of employees, in line with observational research. It lends support to policy initiatives such as the recently enforced EU directive on participation at work, which aims to increase job control and autonomy.
Bambra C., Gibson M., Sowden A.J., Wright K., Whitehead M., & Petticrew M.	2009	Working for health: Evidence from systematic reviews on the effects on health and health inequalities of organizational	Preventive Medicine, Vol 48: 454-461	Changes to the psychosocial work environment were found to have important and generally beneficial effects on health. Specifically: Employee control – participatory committee interventions which increased employee control had a consistent and positive impact on self-reported health

Author	Date	Title	Source	Key Findings
		changes to the psychosocial work environment		Changes to organization of work – health effects inconclusive Shift work interventions - self-scheduling shifts found to benefit health and work-life balance Privatisation – the job insecurity and unemployment had an adverse impact on mental health Health & safety legislation enforcement – fewer fall injury rates
Egan M., Bambra C., Petticrew M., & Whitehead M.	2009	Reviewing evidence on complex social interventions: appraising implementation on systematic reviews of the health effects of organisational-level workplace interventions	Journal of Epidemiology & Community Health: 63: 4 – 11	Focused on evaluating complex organisational-level workplace health interventions and found that 'Evaluations of complex interventions should include more detailed reporting of implementation and consider how to measure quality of implementation.
Egan M., Bambra C., Sian T., Petticrew M., Whitehead M., & Thompson H	2007	The psychosocial and health effects of workplace reorganisation. 1.	Journal of Epidemiology & Community Health, Vol. 61(11), pp. 945-54	Results: We identified 18 studies, 12 with control/comparison groups (no randomised controlled trials). Eight controlled and three uncontrolled studies found some evidence of health benefits (especially beneficial effects on mental health, including reduction in anxiety and depression) when

Author	Date	Title	Source	Key Findings
		A systematic review of organisational-level interventions that aim to increase employee control		employee control improved or (less consistently) demands decreased or support increased. Some effects may have been short term or influenced by concurrent interventions. Two studies of participatory interventions occurring alongside redundancies reported worsening employee health. Conclusions: This systematic review identified evidence suggesting that some organisational level participation interventions may benefit employee health, as predicted by the demand–control–support model, but may not protect employees from generally poor working conditions. More investigation of the relative impacts of different interventions, implementation and the distribution of effects across the socioeconomic spectrum is required.
Engbers, L.H., van Poppel M., Chin A Paw M.J., van Mechelen, W.	2005	Worksite Health Promotion Programs with Environmental Changes: A Systematic Review	American Journal of Preventive Medicine, Vol. 29(1), pp. 61-70	Environmental modifications are thought to be an important addition to a worksite health promotion program (WHPP). This review aimed to systematically assess the effectiveness of WHPPs with environmental modifications, on physical activity, dietary intake, and health risk indicators. Methods Online searches were performed for articles published up to January 2004 using the following inclusion criteria: (1) (randomized) controlled trial (RCT/CT); (2) intervention should include environmental modifications; (3) main outcome must include physical activity, dietary intake, and health risk indicators; and (4) healthy working population. Methodologic quality was assessed using a checklist derived from the methodologic guidelines for systematic reviews (Cochrane Back Review Group), and conclusions on the

Author	Date	Title	Source	Key Findings
				effectiveness were based on a rating system of five levels of evidence. Results Thirteen relevant, mostly multi-centre, trials were included. All studies aimed to stimulate healthy dietary intake, and three trials focused on physical activity. Follow-up measurements of most studies took place after an average 1-year period. Methodological quality of most included trials was rated as poor. However, strong evidence was found for an effect on dietary intake, inconclusive evidence for an effect on physical activity, and no evidence for an effect on health risk indicators. Conclusions It is difficult to draw general conclusions based on the small number of studies included in this review. However, evidence exists that WHPPs that include environmental modifications can influence dietary intake. More controlled studies of high methodological quality need to be initiated that investigate the effects of environmental interventions on dietary intake and especially on physical activity in an occupational setting.
Joyce K, Pabayo R, Critchley JA, Bambra C	2010	Flexible working conditions and their effects on employee health and wellbeing (Review)	The Cochrane Collaboration	The findings of this review tentatively suggest that flexible working interventions that increase worker control and choice (such as self-scheduling or gradual/partial retirement) are likely to have a positive effect on health outcomes. In contrast, interventions that were motivated or dictated by organisational interests, such as fixed-term contract and involuntary part-time employment, found equivocal or negative health effects. Given the partial and methodologically limited evidence base these findings should be interpreted with caution. Moreover, there is a

Author	Date	Title	Source	Key Findings
				clear need for well-designed intervention studies to delineate the impact of flexible working conditions on health, wellbeing and health inequalities.
Robson L.S., Clarke J.A., Cullen K., Bielecky A., Severin C., Bigelow P.L., Irvin E., Culyer A., Mahood Q.	2007	The effectiveness of occupational health and safety management system interventions: A systematic review	Safety Science, Vol. 45(3) pp. 329-353	A variety of OHSMS-based standards, guidelines, and audits has been developed and disseminated over the past 20 years. A good understanding of the impact of these systems is timely. This systematic literature review aimed to synthesize the best available evidence on the effects of OHSMS interventions on employee health and safety and associated economic outcomes. Eight bibliographic databases covering a wide range of fields were searched. Twenty-three articles met the study's relevance criteria. Thirteen of these met the methodological quality criteria. Only one of these 13 original studies was judged to be of high methodological quality; the remainder had moderate limitations. The studies' results were generally positive. There were some null findings but no negative findings. In spite of these promising results, the review concluded that the body of evidence was insufficient to make recommendations either in favour of or against OHSMSs. This was due to: the heterogeneity of the methods employed and the OHSMSs studied in the original studies; the small number of studies; their generally weak methodological quality; and the lack of generalizability of many of the studies.
Robson L.S., Stephenson C.M., Schulte P.A., Amick B.C.,	2012	A systematic review of the effectiveness of occupational	Scandinavian Journal of Work, Environment and Health 2012;	The review concluded that occupational health and safety training positively affected worker behaviours, but there was insufficient evidence of the effect on health, attitudes and beliefs, and knowledge. The review was generally well

Author	Date	Title	Source	Key Findings
Irvin E.L., Eggerth D.E., Chan S., Bielecky A.R., Wang A.M., Heidotting T.L., Peters R.H., Clarke J.A., Cullen K., Rotunda C.J., Grubb P.L.		health and safety training	38(3): 193-208	conducted, and the authors' conclusions appropriately acknowledge the limitations in the evidence base and seem reliable.

10.7 Theme Seven – Cost-effectiveness reviews – four reviews

Author	Date	Title	Source	Key Findings
Baicker, K., Cutler, D., and Song, K.	2010	Workplace Wellness Programs Can Generate Savings	Health Affairs 29(2): 304-311	Critical meta-analysis of literature on costs and savings associated with workplace disease prevention/health promotion, focusing on studies with particularly rigorous methods and examining effects on health care costs and absenteeism. Findings indicate that medical costs fall about $3.27 for every dollar spent on wellness programs, and absentee day costs fall by about $2.73 for every dollar spent. This average return on investment suggests that the wider adoption of such programs could prove beneficial for budgets and productivity as well as health outcomes.
Van Dongen J.M., Proper K.I., Van Wier M.F., Van Der Beek A.J., Bongers P.M., Van Mechelen W., Van Tulder M.W.	2011	Systematic review on the financial return of worksite health promotion programmes aimed at improving nutrition and/or increasing physical activity	Obesity Reviews, Vol 12(12), pp. 1031-1049	This systematic review summarises the current evidence on the financial return of worksite health promotion programmes aimed at improving nutrition and/or increasing physical activity. Data on study characteristics and results were extracted from 18 studies published up to 14 January 2011. Two reviewers independently assessed the risk of bias of included studies. Three metrics were (re-) calculated per study: the net benefits, benefit cost ratio (BCR) and return on investment (ROI). Metrics were averaged, and a subgroup analysis was performed to compare financial return estimates between study designs. Four randomized controlled trials (RCTs), 13 non-randomized studies (NRSs) and one modelling study were included. Average financial return estimates in terms of absenteeism benefits (NRS: ROI 325%, BCR 4.25; RCT: ROI −49%, BCR 0.51), medical benefits (NRS: ROI 95%, BCR 1.95; RCT: ROI −112%, BCR −0.12) or both

Author	Date	Title	Source	Key Findings
				(NRS: ROI 387%, BCR 4.87; RCT: ROI −92%, BCR 0.08) were positive in NRSs, but negative in RCTs. Worksite health promotion programmes aimed at improving nutrition and/or increasing physical activity generate financial savings in terms of reduced absenteeism costs, medical costs or both according to NRSs, whereas they do not according to RCTs. Since these programmes are associated with additional types of benefits, conclusions about their overall profitability cannot be made.
Van Dongen	2012	A systematic review of the cost-effectiveness of worksite physical activity and/or nutrition programs	Scandinavian Journal of Work, Environment & Health, Vol. 38(5), pp. 393-408	The aim of this study was to appraise and summarize the evidence on the cost-effectiveness of worksite physical activity and/or nutrition programs. We searched EMBASE, MEDLINE, SportDiscus, PsycInfo, NIOSHTIC-2, NHSEED, HTA, and Econlit for studies published up to 14 January 2011. Additionally, we searched for articles by reviewing references, searching authors' databases, and contacting authors of included studies. Two researchers independently selected articles. Articles had to include a cost-effectiveness and/or cost-utility analysis comparing a worksite physical activity and/or nutrition program to usual care or an abridged version of the program. Data were extracted on study characteristics and results. Two researchers independently assessed the risk of bias using the Consensus on Health Economic Criteria list (CHEC-list). Ten studies (18 programs) were included. More than 50% of the studies fulfilled 11 (58%) of the 19 CHEC-list items. From various perspectives, worksite nutrition and worksite physical

Author	Date	Title	Source	Key Findings
				activity and nutrition programs (N=6) were more costly and more effective in reducing body weight than usual care. When only intervention costs were considered, most worksite nutrition (N=4/5) and worksite physical activity and nutrition programs (N=5/6) were more costly and more effective in reducing cholesterol level and cardiovascular disease risks, respectively. The cost-effectiveness of more costly and more effective programs depends on the "willingness to pay" for their effects. It is unknown how much decision-makers are willing to pay for reductions in body weight, cholesterol level, and cardiovascular disease risks. Therefore, conclusions about the cost-effectiveness of worksite physical activity and/or nutrition programs cannot be made. There is substantial need for improvement of the methodological quality of studies and particular emphasis should be placed on the handling of uncertainty.
Verbeek J., Pulliainen J., Kankaapaa E.	2009	A systematic review of occupational safety and health business cases		Business cases are commonly developed as means to rationalise investment. We systematically reviewed 26 reported cases on occupational safety and health (OSH) interventions to assess if health and productivity arguments make a good business case. To be included in the review, studies had to analyse the costs and benefits, including productivity, of an OSH intervention at the enterprise level. We searched Medline and Embase for studies and used Google search in addition. Two reviewers independently selected studies and extracted

Author	Date	Title	Source	Key Findings
				data. The intervention profitability was calculated in euros (euro in 2008) as the first year's benefits minus the total intervention costs per worker. The payback period was calculated as the intervention costs divided by the first year's benefits. We found three ex-ante and 23 ex-post cases. In 20 cases, the study design was a before-after comparison without a control group. Generally a 100% reduction of injuries or sickness absence was assumed. In two cases, productivity and quality increases were very large. The main benefit was avoided sick leave. Depreciation or discounting was applied only in a minority of cases. The intervention profitability was negative in seven studies, up to euro 500 per employee in 12 studies and more than euro 500 per employee in seven studies. The payback period was less than half a year for 19 studies. Only a few studies included sensitivity analyses. Few ex-ante business cases for management decisions on OSH are reported. Guidelines for reporting and evaluation are needed. Business cases need more sound assumptions on the effectiveness of interventions and should incorporate greater uncertainty into their design. Ex-post evaluation should be based preferably on study designs that control for trends at a time different from that of the intervention.

10.8 Appendix 2: Search strategy for financial/banking/professional sector literature

In OVID which included Database: AMED (Allied and Complementary Medicine) <1985 to October 2013>, Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present>, PsycINFO <2002 to October Week 5 2013>, HMIC Health Management Information Consortium <1979 to October 2013>, Social Policy and Practice <201310>

1. Financ* or bank* or professional or commercial or investment adj5 (sector or industry or services)
2. Work
3. Workplace or work place or work-place or worksite or work-related
4. Occupation or job or employ*
5. Or/2-4
6. 1 and 5
7. Health adj5 (promot* or campaign* or educat*or program* or outcome* or intervent* or initiat* or survey* or demonstrat* or instruct* or curriculum or advi* or well*)
8. Health promotion/
9. Programme evaluation or program* evaluat* or (program* adj5 evalaut*)
10. Or/7-9
11. Healthy adj5 (choices or eating or diet or activity)
12. Stress or anxiety or depression adj3 (training or manage* or intervent* or initiat*)
13. Mental health or mental wellbeing
14. Mental health adj3 (training or manage* or intervent* or initiat*)
15. Work* age health or age adj3 (work*)
16. Attendance adj3 (manage* or monitor* or track* or intervent* or initiat*)
17. Return to work adj3 (training or manage* or intervent* or initiat*)
18. Vocation* or rehab*
19. Vocation* rehab* adj3 (training or manage* or intervent* or initiat*)
20. Health care or occupation* health
21. Health insurance or health protection or public health
22. Absen* or sickness absen*
23. Wellbeing or well-being
24. Or/11-23

25. Smoking or alcohol or drug or physical activity or physical fitness or nutrition
26. Musculo* or back pain or high blood pressure or cardio-respiratory or weight loss
27. Behav*
28. Life style or lifestyle
29. Habit
30. Action*
31. Practice*
32. Attitude*
33. Activ*
    34. Or/25-33

Using EBSCO we searched EBSCOhost - EconLit with Full Text;Business Source Premier;Regional Business News.

1. Financ* or bank* or professional or commercial or investment W5 (sector or industry or services)
2. Work
3. Workplace or work place or work-place or worksite or work-related
4. Occupation or job or employ*
5. Or/2-4
6. 1 and 5
7. Health W5 (promot* or campaign* or educat*or program* or outcome* or intervent* or initiat* or survey* or demonstrat* or instruct* or curriculum or advi* or well*)
8. Health promotion/
9. Programme evaluation or program* evaluat* or (program* W5 evalaut*)
10. Or/7-9
11. Healthy W5 (choices or eating or diet or activity)
12. Stress or anxiety or depression N3 (training or manage* or intervent* or initiat*)
13. Mental health or mental wellbeing
14. Mental health W5 (training or manage* or intervent* or initiat*)
15. Work* age health or age N3 (work*)
16. Attendance W5 (manage* or monitor* or track* or intervent* or initiat*)
17. Return to work W5 (training or manage* or intervent* or initiat*)
18. Vocation* or rehab*

19. Vocation* rehab* W5 (training or manage* or intervent* or initiat*)
20. Health care or occupation* health
21. Health insurance or health protection or public health
22. Absen* or sickness absen*
23. Wellbeing or well-being
24. Or/11-23
25. Smoking or alcohol or drug or physical activity or physical fitness or nutrition
26. Musculo* or back pain or high blood pressure or cardio-respiratory or weight loss
27. Behav*
28. Life style or lifestyle
29. Habit
30. Action*
31. Practice*
32. Attitude*
33. Activ*
34. Or/25-33

10.9 Appendix 3: Results of grey literature review

Company & Source	Focus	Key Findings
Unilever UK (2010) The Institute for Public Policy Research (IPPR)	Wellbeing	Background Unilever evaluated its UK sites in 2007 and found employees' health issues were Metabolic Syndrome, Cardiovascular disease, Obesity and Hypertension risk. Fit Business has since addressed these health issues in Unilever workplaces, integrated with national public health campaigns and built on current good practice. Intervention • Unilever split the programme into clear quarterly themes linked to external public health campaigns, and aligned its communication and on-site activities to these. • Q1 – Saturated fat – Unilever included the introduction of GDAs in their catering offering to give their people information about what is in their food choices. This linked to and was endorsed by the Food Standard Agency's (FSA) Saturated Fat campaign. • Q2 – Move more – By linking to their sponsorship of the Flora London Marathon Unilever got their people active with pedometers and local walking routes. This aligned with, and endorsed by, the Department of Health's (DH) Change4Life social marketing campaign. • Q3 – Heart Health – Unilever offered employee health checks and directed them to Flora ActivHeart and HeartAge calculator. Some of their employees were referred to further health interventions where appropriate. This linked with the World Heart Federation's World Heart Day. • Q4 – Salt – Unilever held cooking workshops with low salt alternatives that still packed a huge flavour. This was aligned to, and endorsed by, the Food Standard Agency's (FSA) Salt campaign. Outputs/Outcomes • Increased Engagement - agreement to the question "I enjoy better health and wellbeing for being employed by Unilever, compared to another employer" increased from 43% pre-Fit Business to 64%.

Company & Source	Focus	Key Findings
		• Decreased Absenteeism - Unilever's Fit Business Pilot sites average absence fell by 17% in the same period. • Financial Return on Investment- there is an overall Return on Investment from Fit Business in 2009 as measured by their own metrics, IPPR's evaluation and comparing to external wellness ROI calculators such as the BITC's Health Check tool. • Weight loss - a 26% decrease at the factory and 9% decrease at the office in weight as measured by Body Mass Index. • Raising awareness and changing behaviours - The proportion of respondents who reported taking salt into account in the food they bought increased by 10% at the office and 19% at the factory. • A reduction in participant heart disease risk for the highest risk group of 6% to 3%. • 44% of employees at the office and 30% at the factory felt that FIT Business had impacted upon the amount of exercise they took.
Centrica 2010 Steps to health: An evaluation of the impact for Centrica employees in participating in the	Physical Activity	Background Lancaster University appointed to independently evaluate the effectiveness of Centrica participating in the 2010 Global Corporate Challenge Intervention A corporate wellness programme that encourages employees to be active by walking virtually around the world. The programme, based on a team competition utilising pedometers, ran for 16 weeks. Each team consisted of seven members and their activities were recorded on the internet. Participation in the programme was voluntary and full informed consent was given Outputs/outcomes The extent to which Centrica employees benefited in relation to their personal health and performance, and their perceptions of well-being and workplace stress. To examine relationships

Company & Source	Focus	Key Findings
Global Corporate Challenge . Lancaster University Centre For Organisational Health and Wellbeing http://chronicdiseaseprevention.org/research/lancaster/1_GCC%20British%20Gas%20Study%202010%20Summary%20v2.pd		between employees step count average and outcomes. Data was collected from 922 participants at 2 time points, baseline and 4 months (post the event) The questions were categorised into two sections; Your Health, and Your Well-being. Data was gathered by an online questionnaire. Baseline • 922 participants completed both the pre and post measures, and were used in this analysis. • Of the 922 participants, 50.3% were male. • The age of the participants ranged from 18 to over 60 years with a mean age between 41 to 50 years. Results • Overall the results suggest that the majority of employees responded favourably in participating in the GCC 2010. • 82% of Centrica employees saying that it had a positive impact upon their health. • 94% of Centrica employees state they will continue the same amount of physical activity now the GCC has finished. • 59% felt the GCC has changed their long term approach to exercise. Your Health : Employees recorded significant improvements in their perceptions of the following: • Their level of concentration at work • Their feeling of playing a useful part in things at work • Their capability of making good decisions • Their capability of overcoming their difficulties • Their confidence level • Their self-esteem • Their general happiness

Company & Source	Focus	Key Findings
f		Employees also recorded significant improvements in relation to their productivity and engagement saying: • That they felt their productivity had significantly improved • Their engagement levels had significantly improved • They also recorded a significant increase in job satisfaction Your Well Being: Employees recorded significant improvements in their perceptions of: • Step Count: Overall – the greater the step count the greater improvement in outcomes. Employees with > 15000 steps: recorded significant improvements in their perceptions of: • Their level of concentration at work, compared to those with an average step count of 9000-12000 and < 9000 • Their level of enjoyment from their normal day to day activities, compared to those with an average count of 9000-12000 • Their level of self-esteem / self-worth, compared to those with an average step count of 12000 - 15000 Conclusions Overall the results indicated that GCC participants from Centrica were happier, healthier, more productive, and dramatically more engaged with their work and employer as a consequence of their participation in the GCC. The most significant impacts were identified with regards to people's health specifically in terms of enjoying normal day to day activities, concentration levels, and their overall health. Importantly there was also a significant improvement in people's productivity levels at work. Therefore in conclusion the GCC can be considered to have made a number of positive impacts on the employees that participated.

Company & Source	Focus	Key Findings
Well@Work 2008 Bull F, Adams, Hooper P. (2008) Well@work Promoting health and active workplaces Final evaluation report	Physical Activity	Background Most of the projects focused on promoting physical activity. Each of the 11 sites included some challenge or competition initiatives, and overall 7% of the initiatives comprised challenges or competitions, usually pedometer challenges. Intervention Across 10 projects, there were 18 pedometer challenges with 371 participants, many were not otherwise participating in activities. Drop-out rates were high, and there was high variation between workplaces in step counts and changes in step counts. Outcomes • Evaluations found that competitions and challenges were popular amongst employees • Health checks conducted during work time and by independent health professionals were liked best by participants Insight • Employee input for ideas of project activities essential • Project action plans were useful to set key milestones – should be flexible and reactive to employee needs/wants • Management buy-in and support from all levels deemed essential • Champions key liaison persons • One-off activities viewed as appealing to those who couldn't commit to longer-term challenges • Competition and incentives/prizes motivated and encouraged employees; team competitions provided peer support and encouragement; many challenges involved participation during the work day which was well-received by employees

Company & Source	Focus	Key Findings
		• Use of multiple channels of communication recommended to reach all participants/avoid communication problems being a barrier to participation • Physical activities were identified as the most popular and easiest to sell; focused on practical, social and fun nature • Greater focus on diet and nutrition indicated – more changes in the canteen and more "affordable healthy options" • Extension of project activities to friends and family.
Paths to Health Workplace Pedometer Loan Pack Evaluation (2006) 18 sites across Glasgow (Inc. Direct Line Insurance) Paths to	Physical Activity	Background Paths to Health was established in September 2001 as part of the Paths For All Partnership (established in 1996). The vision of the partnership is a Scotland of 'active communities', where each community has a network of paths which people can use for recreation and everyday journeys. It is believed that such provision of paths will deliver health, community, sustainable transport and economic benefits for Scotland. Intervention Workplace pedometer loan packs, consisting of pedometers, daily step-count cards and a co-ordinator guidance card containing information on how the pedometers should be distributed and step-count targets set. Suggestions for motivating staff to walk more are also included and co-ordinators are directed to the Paths to Health website for ideas on how to encourage the competitive element of walking at work. Distributed to 18 workplaces, public and private including Direct Line Insurance (Glasgow) Staff members at each site volunteered to co- ordinate the scheme and issued employees with a pedometer, educational materials and a step-count record card containing instructions for setting

Company & Source	Focus	Key Findings
Health Workplace Pedometer Loan Pack Evaluation *University of Strathclyde*		step-count targets over a 12- week walking programme. Outcomes/outputs The evaluation consisted of qualitative methods including telephone interviews with pedometer pack co-ordinators and focus groups with pedometer pack users. These methods facilitated an in-depth insight into participants' and co-ordinators' views on, and experiences of, using the pedometer pack. In general, the pedometer pack was considered a user friendly product which was easy to administer and effective in engaging users. Benefits of the scheme included increased awareness of the health benefits of walking and of one's own level of activity. This heightened awareness gave rise to positive attitudinal and motivational changes, as well as behavioural outcomes which were reflected in increased walking levels within the workplace itself (e.g. using the stairs, delivering messages on foot) and outside of the workplace (e.g. active commuting, increased dog walking). Advantages of implementing the pedometer scheme within the workplace included opportunities for participants to gain support, encouragement and competition from colleagues, while employers might benefit from a more socially integrated and productive workforce. Challenges of the scheme included pedometer problems, maintaining motivation to walk and having limited opportunities to increase walking levels in the workplace due to layout and location.
Unilever UK 2009 Lamplighter Programme	Wellbeing	Background The preliminary aim of this report was to evaluate the effects of employees participating in the comprehensive Lamplighter organisational wellness programme undertaken at Unilever House after a six month interval on employee health. Intervention Participants undertook a number of individual health screenings and diagnostics, before and after

Company & Source	Focus	Key Findings
Evaluation of Health and WellBeing Programme for Unilever. Lancaster University		participating in the Lamplighter Programme. This data was then categorised into five health categories; None Modifiable Risk Factors, Lifestyle Risk Factors, Nutritional Habits, Fitness, Workplace Health, and Biochemistry. A Total Health scored was also provided which were the combined scores for these five categories. The Lamplighter programme is aimed at improving individual health and well-being over a period of six to twelve months. The programme focuses on improving individuals Exercise, Nutrition and Resilience through a combination of diagnosis and education. Individual plans were created for each individual by in-house experts after undertaking a number of diagnostics such as a Blood Test, Health Risk Appraisal (HRA) and completing Physiological, Nutritional Assessments and a Resilience questionnaire (The Pressure Management Indicator). Outcomes Results indicated a number of significant improvements in employee's health after participating in the programme. These included positive improvements in Lifestyle Risk factors, Nutritional Habits, Fitness, and Workplace Health. Overall employees Total Health scores did appear to significantly improve for participants who completed the programme. A closer inspection revealed that the most significant improvements seemed to be towards employees Workplace Health and Fitness. In conclusion the Unilever Lamplighter programme can be considered to be a good example of a comprehensive organisational wellness programme that incorporates both fitness and educational components, to improve individual health and wellbeing. However, the benefits of such programmes can rapidly decay if good lifestyle habits are not continued and reinforced.

<table>
<tr><th>Company

& Source</th><th>Focus</th><th>Key Findings</th></tr>
<tr><td>Altogether Better (2010)

Altogether Better Thematic Evaluation Mental Health and Employment Projects

Centre for Health Promotion Research

Leeds Metropolitan University</td><td>Mental Health</td><td>Background

This thematic evaluation was commissioned as part of the evaluation of the Altogether Better programme, a five-year programme funded through the BIG Lottery Fund. Altogether Better is based on an empowerment model based on three elements: building confidence, building capacity and system challenge. Altogether Better has 4 projects that focus on mental health and employment (three exclusively, and one alongside other areas of focus). These projects seek to improve health and well-being in workplace settings, with an emphasis on raising awareness of mental health issues through providing and targeting support, advice and training to employers and employees.

Intervention

<table>
<tr><th>Project</th><th>Training</th><th>Support</th></tr>
<tr><td>Doncaster Better Workplace Better Mental Health</td><td>PCT – ‘Working for Better Mental Health Training’ delivered to PCT staff and GP practices aims to increase referrals to employment support projects by health services. Businesses MHFA training to employees, Managing Mental Health in the Workplace training for line managers and stress awareness workshops to employees.</td><td>PCT - Toolkit to support PCT staff and GP practices. Support and guidance targeted at professionals. Businesses - A needs assessment informs an improvement plan for employers. The project then supports businesses to implement actions in the plan. Support targeted at employers.</td></tr>
<tr><td>MHFA</td><td>Delivers a two day MHFA training course to employees from the statutory, voluntary and community</td><td>The project works with a range of champions (public health professionals) who promote MHFA Courses in Their locality. Once MHF Aiders have completed course their contact</td></tr>
</table>
</td></tr>
</table>

Company & Source	Focus	Key Findings

	sector.	with the project ends
Rotherham Mind Your Own Business	Delivers MHFA to employees and Managing Mental Health in the Workplace training for line managers within local businesses.	A needs assessment informs an improvement plan for employers. The project supports businesses to implement the plan. Support targeted at employers rather than directly at the employees.
Wakefield Health Means Business	Offers a range of short sessions (2 hours) across the three wellbeing strands run by the project team or healthcare specialists and partners organisations. Also offers MHFA.	Provides support and advice to workplace health champions (employers and employees) to implement activities such as 'Fruity Fridays' Pedometer challenges and holistic therapy sessions

Outcomes

Impacts of training on individuals:

- The MHFA 2 day training helped MHF Aider beneficiaries to notice different behaviours, and provided a framework for insightful reflection.
- New practical knowledge was gained, as the MHFA course enabled beneficiaries to address stress in themselves or by advising others.
- There was evidence of beneficiaries' gaining self-esteem, confidence, and independence, and of beneficiaries' change of attitude towards others including: confidence not to be afraid; openness to engage with others; confidence to challenge stigma.
- There is less evidence of MHFA training *alone* leading to beneficiaries challenging work systems.

Company & Source	Focus	Key Findings
		Impacts of combined project elements on individuals: • On work-place mental health projects multi-element improvement plans may be more significant than single elements in impacting on individuals. • Combining training, support and tools has provided individuals with confidence to plan and organise events together. Individuals have developed participatory approaches in well-being events, and individuals' growing confidence helps to develop a more empowering culture within organisations. • Individuals reported growing awareness and supported others to take courses, responding to common problems, and taking up issues with managers. • Individuals on multi-element projects individuals also reported contributing to challenging systems. Impacts for indirect beneficiaries: Empowering outcomes for indirect beneficiaries were reported, including transfer of skill, knowledge or confidence to a client or colleague; and assisting a colleague by providing care, advice or support when needed. 'Tools' at the workplace were reported to have provided colleagues with the understanding to break down stigma (well-being groups, internal courses on stress awareness, and system changes e.g. introduction of staff packs). Impacts on organisational climate: The *combination* of training, support tools, and support from project leads has assisted in de-stigmatising mental health and changing the corporate culture of some organisations. This has happened through processes which increase trust, influencing the attitudes and practice of senior management, and the openness of employees to talk about employment and mental health.

Company & Source	Focus	Key Findings
		For organisational change to be sustained It was vital for projects to convince employers well-being is good for business. Change-enabling processes The most important processes reported as leading to empowering changes around individual confidence and capacity, organisational capacity and system change, concern ownership. Where initiatives are owned psychologically by individuals and organisations, this helps to create and sustain a non-stigmatising culture in healthy organisations. Ownership was nurtured where training and shared activities result in organisational members themselves developing new tools and practices, and encouraged by the use of formal or informal employee networks to ''take the bull by the horns". Challenges • Developing whole system rather than piecemeal change needs planning time and protected resources. • Addressing culture change has involved projects in supporting participatory approaches and doing consistent ground work with senior management. • Improving the fit of training with employment environments has involved developing alternative workplace courses. • Addressing issues arising from the provider-commissioner split requires early, and sustained mutual engagement. • There are further challenges around balancing resource needs for outreach work and reaching targets with supporting current beneficiaries, and tracing/evidencing the changes that are likely to work best (whole system changes with individual and organisational aspects and participatory approaches).

Company & Source	Focus	Key Findings
Royal Mail (2008) Men and Salt a Workplace intervention Mens Health Forum	Nutrition	Background The primary aim of this project was to develop, pilot and evaluate a workplace-based health improvement intervention with the intention of learning the most effective ways of communicating the FSA's key salt messages to men on low incomes. Intervention The intervention and subsequent evaluation took place at the Royal Mail's Greenford Mail Centre, Middlesex, a facility with 2,000 employees, two thirds of whom are men from a wide range of age groups and ethnic backgrounds. The intervention was a multi-component targeted intervention consisting of: • Low(er) salt products offered in the canteen • Dissemination of the Men's Health Forum's Living Healthily Manual • Mini health sessions • Input from Ealing Primary Care Trust • A health information tool for dining tables • Low salt tasting sessions • Article in the Royal Mail newspaper 'Courier' Outcomes • Significant increases were found in men's perceptions of the importance of salt to health between baseline and follow-up. • Significant improvements were found in men's awareness of three out of the four key FSA messages. • There was a significant reduction in the proportion of men who reported 'always' adding salt to food when cooking; however there was also a significant increase in the proportion of men adding

Company & Source	Focus	Key Findings
		salt to food 'most times'. • The majority of participants expressed positive opinions about the intervention. • A relatively large proportion of men found the dissemination strategies useful. • There was a mixed response to low(er) salt products offered in the canteen. • Implementation of the intervention was adversely affected by poor timing and redundancies.

10.9.1 Internally-evaluated interventions

Company	Focus	Key Findings
Air Bus UK (2013) Health Work and Wellbeing Case Studies	Mental Health	Background In 2007, mental health caused 25% of all absence at the manufacturing facility and the average absence per case was 49 days. Mental health absence was the second largest reason for absence after musculoskeletal issues. Intervention Airbus worked with Cheshire and Wirral Partnership NHS Foundation Trust (CWP) to develop an innovative approach to address employee wellbeing. A holistic approach to support was adopted rather than the traditional medical model. The goal was to introduce an onsite service for Airbus employees that maintained their health and wellbeing in the workplace, but also de-stigmatised mental health issues. A mental health and employee support team was established to manage the needs of the business and employees. The existing Airbus Occupational Health and Wellbeing staff engaged with a team of experienced counsellors as an integral part of the function. Additionally, onsite weekly sessions with a registered

Company	Focus	Key Findings
		mental health nurse and monthly sessions with a consultant psychiatrist were arranged. Airbus also trained 2 members of staff as Mental Health First Aid trainers. They provide training to line managers, HR personnel and Trade Union Representatives. Outcome By 2009, mental health-related absence reduced from 25% of all absence to 18.5% and average length of absence per episode reduced from 49 days to 35 days. In 2010, absence decreased to 11.94% with a further reduction in average length of absence to 34 days. While receiving support, 89% of all referrals to the service remained in work. The investment in providing this initiative has benefited Airbus in both financial and cultural terms, as well as significantly enhancing the wellbeing of its employees. Airbus in partnership with CWP was a finalist in the Health, Work and Wellbeing category of 2010's National Business Awards.
Marks & Spencer	Wellbeing	Intervention Marks and Spencer's Wellbeing Programme - launched company health and wellbeing website for employees www.planAhealth.com. The website gave employees access to a wealth of information, support and resources across a range of physical and mental wellbeing issues from healthy eating, stress and work-life balance to advice on sleep problems, financial matters and loneliness. Marks & Spencer also worked closely with charities to ensure their employees also have access to online assessment tools ranging from the menopause to Diabetes. The website covers UK, Ireland and India. Corporate wellbeing challenges are utilised to encourage employees to use the resources on the site, for example, their weight loss challenge where staff lost weight safely and effectively as part of an office or store team.

Company	Focus	Key Findings
		Outcomes • 13,000 employees use its wellbeing website. • 10,500 employees undertaken a wellbeing pledge to take steps, such as drinking more water, to improve their health • 1,088 employees joined the weight-loss challenge. 4 metric tonnes of weight were lost while increasing staff engagement • 500 staff participated in the 24-hour cycling endurance challenge, raising over £1million for charity • Turnover rates have improved since the site launch down to a low of 0.50% in February 2013. • Sickness absence fell 7% in one month following the www.planAhealth.com re-launch • There was an 18% reduction in referrals to Occupational Health for Muscular Skeletal absence following the introduction of the Physiotherapy Helpline.
Prudential	Wellbeing – focus on physical activity	Background In 2010 Prudential were committed to ambitious performance targets but faced very significant external challenges caused by a combination of global financial turmoil and huge regulatory change. To achieve their goals in a difficult climate they wanted every colleague to feel connected to the business priorities and feel proud to work for Prudential. Intervention They created an 'engagement people strategy' to address combined engagement and wellbeing opportunities for staff, by building a working environment that colleagues would choose to describe as 'a great place to work' and committed to a number of interventions, following a detailed and comprehensive phase of research and development that included reviewing more than 3,000 comments from colleagues in the first annual engagement survey. The Prudential HR function has overall responsibility for managing the programme and has a highly developed set of working groups and processes in place. Some of the specific wellbeing interventions included: Online 'health manager' tool encouraging colleagues to take greater ownership of personal health

Company	Focus	Key Findings
		and wellbeing. *Be Inspired* programme to encourage colleagues to be more physically active offering a range of challenges and activities to help keep colleagues motivated including community games, a pedometer challenge, race classics such as marathons and 10k runs and team leagues. Onsite health kiosks. Organising local initiatives for colleagues such as pilates, cholesterol testing and a football league. Outcomes • The extent to which colleagues feel committed to Prudential, and are willing to put in discretionary effort, is up 14% from 60% to 74% over the period 2010 – 2012. • An assessment of absence rate for December 2010 versus December 2012 shows an estimated reduction in the cost of absence of £0.2million. • With the reduction in voluntary turnover over this period, Prudential estimates a cost saving of £0.6million. • 1,447 health tests have been taken by colleagues at onsite health kiosks. • 31% of employees with a health manager report have set a personal health goal. • 44% of colleagues now volunteer their time and skills in local communities.
E.On UK (2010)	Wellbeing	Background Recognising the cost of poor employee health to the business, the company's senior leadership team became engaged in order to produce a company-wide approach to managing the issue. It was developed through consultation with colleagues and was based on an understanding of risks, as well as analysis of company data on employee health and safety.

Company	Focus	Key Findings
		Intervention The approach taken by E.ON UK has three aspects: proactive steps, such as campaigns on cancer and mental health. Providing appropriate support as quickly as possible, for example early referral to occupational health; specialist case management and fast track physiotherapy. Finally for those who have been absent for some time rehabilitation services are provided, helping employees to return to work more quickly. Outcomes • Programme has engaged 10,000 employees to date and successfully raised the profile of health issues throughout the organisation. • Continuous reduction in absence rates following the launch of the employee health strategy, equating to some £8.9million per year.
NHS Nottingham Five-year workplace wellness intervention in the NHS	Wellbeing	Background Poor health and well-being has been observed among NHS staff and has become a key focus in current public health policy. The objective of this study was to deliver and evaluate a five-year employee wellness programme aimed at improving the health and well-being of employees in a large NHS workplace. Intervention A theory-driven multi-level ecological workplace wellness intervention was delivered including health campaigns, provision of facilities and health-promotion activities to encourage employees to make healthy lifestyle choices and sustained behaviour changes. An employee questionnaire survey was distributed at baseline (n = 1,452) and at five years (n = 1,134), including measures of physical activity, BMI, diet, self-efficacy, social support, perceived general health and mood, smoking behaviours, self-reported sickness absence, perceived work performance and job satisfaction.

Company	Focus	Key Findings
		Outcomes Samples were comparable at baseline and follow-up. At five years, significantly more respondents actively travelled (by walking or cycling both to work and for non-work trips) and more were active while at work. Significantly more respondents met current recommendations for physical activity at five years than at baseline. Fewer employers reported 'lack of time' as a barrier to being physically active following the intervention. Significantly lower sickness absence, greater job satisfaction and greater organisational commitment was reported at five years than at baseline. Improvements in health behaviours, reductions in sickness absence and improvements in job satisfaction and organisational commitment were observed following five years of a workplace wellness intervention for NHS employees. These findings suggest that health-promoting programmes should be embedded within NHS infrastructure.
HSBC (2011) BITC	Wellbeing	Background HSBC offers a range of banking services to 16.1 million customers in the UK. Its 'My Health and Wellbeing' Programme (MHW) was established at the beginning of 2011 to adopt a holistic approach to ensure a healthy workforce. Focusing on two key areas: Integrated Healthcare and Healthy Living Solutions the programme aims to help all employees to enjoy healthy lifestyles. Intervention HSBC's 'My Health and Wellbeing Programme' encourages health in the workplace, ranging from competitive sport to curative medicine, adopting a holistic approach to ensure a healthy workforce. Targets were developed around promotion of; wellness and health education, improving employee engagement and work life balance, reduction of business costs due to ill health and support staff during periods of illness. Internal and external stakeholders were requested to participate in the programme from the outset.

Company	Focus	Key Findings
		Outcomes • Outcomes during the first year included; increased employee programme participation and event attendance, improved employee engagement scores, improved scores in managerial health assessments, a significant reduction in employee absence caused by psychological illness and a reduction in costs associated with employee ill health. • Psychological absence has reduced from 26% in 2010 to 19.5% in 2011. • 69% of employees agreed/strongly agreed that HSBC is a great place to work against a target of 65%. • 71% of employees agreed/strongly agreed that they had a good work/life balance against a target of 65%. • There has been a reduction in the claims under HSBC Healthcare Trust medical benefit with an estimated saving of £2.5m between 2010 and 2011. • The employee engagement score increased from 68% in 2010 to 72% in 2011.
Diageo NI (2013) BITC	Wellbeing	Background Diageo NI launched its 'You are Made of More' health and wellbeing programme to provide a range of education, support and health awareness activities to encourage employees to look after their health and fitness at work and at home. Intervention Wellbeing activities include a weight-loss programme 'Made of Less', a walking challenge, 'Know Your Numbers' health checks, and energy management workshops for people managers. Development of a new business strategy of "Making Diageo Ireland a great place to work". A full-time occupational health (OH) nurse, employed to cover the four Diageo sites in Northern Ireland, works in partnership with the HR Business Partners to deploy the programme locally.

Company	Focus	Key Findings

		Outcomes
		
		• 92% of employees took part in the programme, up from 88% in 2011.
		• Manufacturing sites have seen a significant increase in their productivity with overall equipment effectiveness scores increasing by 8% between 2011 and 2012.
		• Diageo NI staff turnover across all four sites remains well below the national average at below 1%
		• During 2012, 92 (25%) of Diageo NI employees took part in the weight-loss programme with an overall weight loss of 730 lbs.
		• Participants in the 'Made of Less' programme stated other health benefits in addition to the weight loss including:
		  • Medication stopped due to reduced blood pressure, knee joint pains eradicated, breathlessness reduced when undertaking exercise, general more energy at work and at home.
		  • 15% more employees said that Diageo was a "psychologically and emotionally healthy place to work" compared to 2011.

Astra Zenica (2011) BITC	Welbeing	Background AstraZeneca wanted to create an environment where people are enthusiastic about working and recognises that employees are the most important resource; their welfare is essential to maintaining the highest standards. Management of health and wellbeing issues is an important element in developing and maintaining such an environment. Intervention Health and wellbeing initiatives included: Health promotion activities; Home-work balance initiatives; Ergonomically-designed working environments; Fitness opportunities; Healthy eating options in restaurants; Health assessments; A counselling and life management programme; Fast-track healthcare insurance; Rehabilitation programmes; Integrated occupational health/human resources interventions.

Company	Focus	Key Findings
		Outcomes • Cost savings £500K to £700K saved through improved productivity after counselling; £80,000 saved on health insurance costs for psychological illness. • Improved health and safety:Global accident and occupational illness rates reduced by 61% against a target of 30%; High employee awareness and favourability ratings for employee assistance (counselling) programme. • Improved image 84% of employees proud to work for AstraZeneca and 82% would recommend the company as a good place to work; 80% of employees said they had enough flexibility in their job to be able to balance work and personal life; 88% said AstraZeneca demonstrated commitment to the health and wellbeing of its employees.
Johnson Matthey (2013) BITC	Mental Wellbeing	Background Johnson Matthey has been focusing on improving workplace health programmes following the introduction of a revised corporate health management strategy in 2005 to strengthen workplace health protection and to promote good general health, wellbeing and performance of the workforce. Intervention A sustainability vision was launched in 2007 that included a health target to reduce the incidence of occupational illness by at least 30% by 2013/14 and health programme activities were repositioned as 'sustainable health'. All sites globally were encouraged to align their workplace health programmes with revised corporate policies and guidance on sustainable health management. This included addressing not just physical workplace health hazards but also psychosocial issues through a mental wellbeing policy. Support was provided to site management to implement health programme improvements through consulting advice and health programme audits conducted by the Director of Group Health. An annual health review and improvement planning process was introduced for each site

Company	Focus	Key Findings
		management team to assess the changes needed to health programmes for the coming year and to develop an improvement plan to document and track these. A leading health metric scorecard was developed in collaboration with the UK Chemical Industries Association which was then piloted and implemented globally at every Johnson Matthey site. Management teams self-assess the development and performance of 14 key preventive elements of site health programmes once a year, including a self-appraisal of management team 'health leadership' behaviours. Health scorecard data is also analysed at a corporate and regional level to track performance and target improvement activity. Each site is supported by a contracted occupational health service and in the UK short term physiotherapy treatment for musculoskeletal conditions and counselling services for common mental health conditions are funded. All UK employees were given access to an online wellness programme: BUPA Positive Health. In addition to this, sites have devised their own health and wellbeing programme initiatives to address the specific needs of each workforce and to align with other business improvement and culture change programmes. Examples include incorporating engaging employees in health and safety culture change as part of lean production implementation, cycle to work schemes, subsidised fitness centre membership and specific health promotion campaigns and health fair events. Outcomes The corporate occupational illness rate has reduced from 5.3 cases per 1000 employees in 2008 to 2.7 in 2012/13, exceeding the 30% reduction target set for 2013/14. In 2012, 90% of site management teams globally reported that they had conducted a health review and planning process in the past 12 months and had developed a health improvement plan for the current year.100% of sites completed the leading metric health scorecard in 2011 and 2012. This showed a 10-20% increase in the proportion of sites that achieved an 'A' (advanced) or 'B' (best practice) level of performance for all of the 14 scorecard headings.

Company	Focus	Key Findings
Arriva Busses Wales Department for Work and Pensions	Wellbeing	Background The company has health and wellbeing principles in both its business strategy and culture. It has long been felt that the health and wellbeing of the staff should be a major priority, in that the company gains in so many ways from a healthy, happy workforce. Not least of these gains is the fall in the number of days of sickness that is almost always achieved when health and happiness are seen as a corporate standard. Intervention Informed by an employee health survey, Arriva has introduced a wide variety of health and wellbeing activities for its staff, including: • A weekly fruit and vegetable co-operative; • Cycle initiatives; • Golf tuition; • Football teams; • Health awareness days. Key messages, including no smoking, keeping hydrated and green travel, are promoted to drivers and passengers. Managers support this work through a range of health and wellbeing policies, a rigorous approach to health and safety and access to an occupational health service. The business has a strong ethos of corporate social responsibility, from minimising its impact on the environment to maximising its contribution to local communities, including the 'eco manager' initiative to increase fuel efficiency, free transport for community groups, social events for young people and support for local football clubs and charities. Outcomes Arriva's senior managers acknowledge the business benefits that a focus on health and wellbeing can

Company	Focus	Key Findings
		deliver, as well as to families and the wider community, and have experienced improvements in attendance, reduced sickness absence, improved motivation and reduced driver stress levels of between 10 and 15 per cent.

10.10 Appendix 4: Invitation to participate in research

November 2013

To: Director of Human Resources

Re: City of London: Review of Best Practice in Promoting Employee Health & Wellbeing

The City of London Corporation has commissioned Cavill Associates Ltd, in collaboration with the University of Salford, to undertake research into best practice in workplace health and employee wellbeing programmes. This is a key issue for the City Corporation, which has previously produced research exploring the public health and healthcare needs of City workers. The City of London is also hosting a conference in March 2014, to engage senior decision-makers and help establish the City as a leader in workplace health.

Building on these activities, this research aims to identify best practice in addressing employee health and wellbeing issues among large financial and professional services organisations, looking specifically at examples located within the 'Square Mile'. In so doing, the research seeks to provide guidance for the City Corporation and other local authorities to enable the businesses operating within their boundaries to support the needs of their employees. This is of vital importance for any business, with staff being the most valuable asset they will ever invest in.

We are writing to request your help in informing this research, by inviting you to participate in an interview. The interview may be face-to-face or conducted by telephone, and will be carried out by a member of the research team. It will last no longer than 45 minutes in total. The interview will consider issues such as the nature of the type of work undertaken within your organisation; current health and wellbeing of staff; the types of support/interventions currently provided to either promote health or mitigate illness at work within your organisation, and the management of health and wellbeing of staff within the

organisation. At no time will you be asked any personal questions about your health or that of any employee who works within your organisation.

This work will involve no cost to your company other than your time in being interviewed. The interview schedule will be circulated in advance, to allow you to consider the questions and how you might answer these. All data collected is anonymised and will not be used without your permission. Your identity, and that of the organisation you work for, will not be disclosed in any way throughout this process. Data collected throughout this process will not be passed on to any other agency. You have the right to withdraw from the study at any time and to retract anything you have said. All data is stored securely at the University of Salford or Cavill Associates (as password protected electronic files). The data will be destroyed after the project is completed, within a reasonable timeframe.

If you are willing to take part in this research, please contact Nick Cavill or Mike Parker by email (XXXX) to arrange an interview. Alternatively if you would like us to consult a colleague, please pass this letter on as appropriate.

If you would like further information on this research from the City of London, please contact XXXX.

Yours sincerely,

Professor Lindsey Dugdill & Dr Margaret Coffey,
University of Salford.
Dr Nick Cavill & Mr Mike Parker,
Cavill Associates Ltd.

10.11 Appendix 5: Interview schedule

Cavill Associates with The University of Salford have been commissioned by the City of London Corporation to undertake research to identify best practice in workplace health and employee wellbeing programmes, and we are interviewing large City firms as part of this. Thank you for agreeing to participate - this important research will help inform guidance on best practice to help businesses operating within the City to support the needs of their employees.

The interview:

- Should take about 45 minutes;
- Is confidential: your identity will not be revealed in any report – although, if possible, we would like your permission to use anonymised quotes/excerpts
- Permission to tape the conversation – the full transcript will not be made available to anyone.

1. To begin with, could you tell me about the approach to health and wellbeing in your organisation? [Prompts – what kinds of programmes do you have? the drivers for these programmes? – How did you decide on these programmes? How were they put in place [participatory/non-participatory/organisational/individual]? How are they working/managed…do you monitor them? Does the company have someone who could be described as a business health champion in the workplace?]
2. Which aspects of health do the programmes focus on? [Mental and/physical – why is this – key drivers]? Could you give us examples?
3. Do you think the approaches/programmes that you have in place are effective in addressing the key health issues of your staff? [Prompt – what are the key issues in respect of health within your workplace]
4. Looking at the nature of the programmes, which ones do you think would be considered 'preventative' [which ones are implemented to treat people/or stop people from worsening?] or 'resilience building'?
5. What is uptake like on these programmes? [Which type of staff do you think take them up? Do you have any figures in respect of uptake that you could share (job role/gender/vulnerable groups etc.? What proportion of staff? How many employees does your organisation have?]
6. Which of these programmes do you think are the most effective? [Prompts – why do you think this is? What do you think you could do to make these interventions more effective? How do you measure 'effectiveness'? (Objectively?)]
7. What do you think are the key benefits of workplace health programmes to your organisation/the City? [Prompt – improved absenteeism/productivity/morale etc.] Have you any evidence of these benefits within your own workplace / do you collect data on any of these measures of effectiveness?
8. What do you see as the key challenges for workplace interventions to improve health & wellbeing in the workplace/City? [Prompt – the nature of

the work/working cultures in the financial and professional services sector etc.]

9. What do you think could help your organisation or others in the City to address some of these challenges?
10. We have carried out a literature review of workplace health that suggests workers in the financial/professional services sector might suffer particularly from stress/mental health issues…can you highlight how these issues are
    - Identified within your organisation?
    - Addressed/considered within your organisation?
11. The findings of the review suggest that programmes that are designed with the involvement of staff, following a staff needs assessment are most effective at promoting health and wellbeing among employees.
    - Do you/would you be able to implement such a programme in your workplace?
    - What are/what would be the barriers that you might face?
12. The evidence also suggests that programmes are more effective if they tackle structural issues within the company as well as being targeted at individuals. Can you see that working in your company/the City?
13. Finally, if you were talking to someone who was thinking of putting a programme in place to help improve health and wellbeing in their workplace, what would be the key bit of advice you think you'd give them? Why?

Best Practice in Promoting Employee Health and Wellbeing in the City of London

RESEARCH REPORT CITY OF LONDON CORPORATION **MARCH 2014**

TECHNICAL REPORT

www.cityoflondon.gov.uk/**economicresearch**

CITY OF LONDON

cavill ASSOCIATES
public health consultancy

University of Salford MANCHESTER